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Transportation Group, LLC
Traffic Engineering and Planning

Traffic Impact Study

Parish Presbyterian Church
4150 Clovercroft Road
Franklin, TN

Prepared August 2018
For Parish Presbyterian Church

FTG, LLC
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Franklin, TN 37068
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Prepared August 2018

PREPARED FOR:
Parish Presbyterian Church
4150 Clovercroft Road
Franklin, TN 37067

PREPARED BY:
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FTG Project Number: 10951

Table of Contents

1. INTRODUCTION

This study has been prepared in order to identify the traffic impacts of a private school that is proposed to be constructed on the north side of Clovercroft Road, between Market Street and Wilson Pike, in Franklin, Tennessee.

For the purposes of this study, existing and background traffic volumes were established, and trip generation calculations were conducted. The trips which are expected to be generated by the proposed project were distributed to the roadway system. The intersections which provide access to the site were then re-evaluated to determine the traffic impacts of the proposed project. Access and circulation needs for the project were evaluated, and the necessary roadway and/or traffic control improvements were identified. This report presents the results of these analyses and the subsequent recommendations.

2. PROJECT DESCRIPTION

The location of the proposed project is shown in Figure 1. As shown, the project site is located on the north side of Clovercroft Road, between Market Street and Wilson Pike, in Franklin, Tennessee. Specifically, Parish Presbyterian Church plans to construct a K-12 school adjacent to the church's existing worship facility. The school campus will include a classroom building with approximately 22,000 sq.ft. of space and a multipurpose building with approximately 8,200 sq.ft. of space. This facility will accommodate a total population of 175 students, 32 staff members, and up to eight (8) volunteers.

Access to the project site will be provided at one location on Clovercroft Road. Specifically, the church's existing driveway will be reconstructed east of its current location so as to maximize sight distance at this location. The current project site plan is shown in Figure 2.

In large part, economic and market considerations will dictate the pace and timing with which the proposed project is actually completed. For the purposes of this study, it was assumed that the proposed project will be completed in four years.

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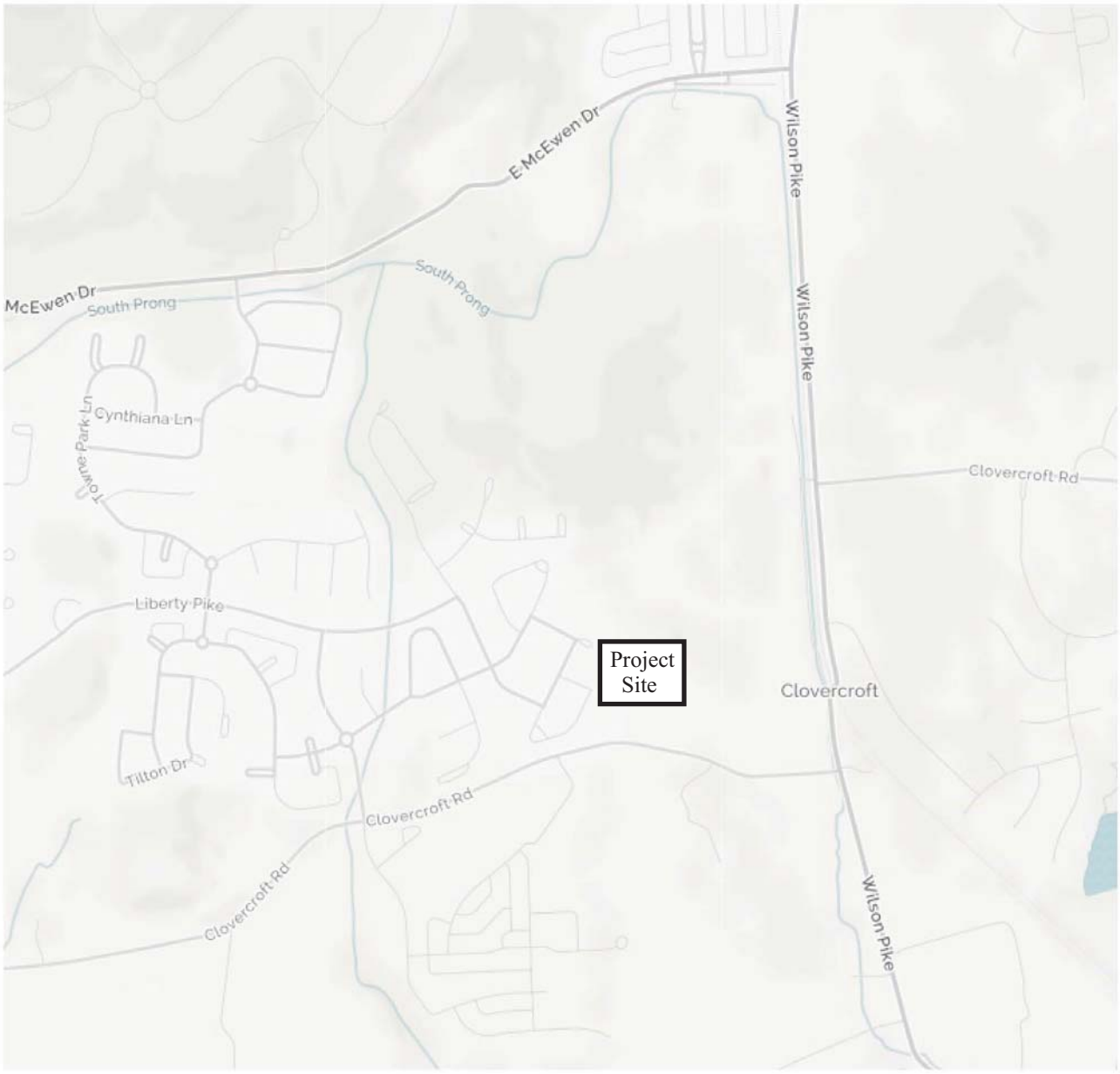

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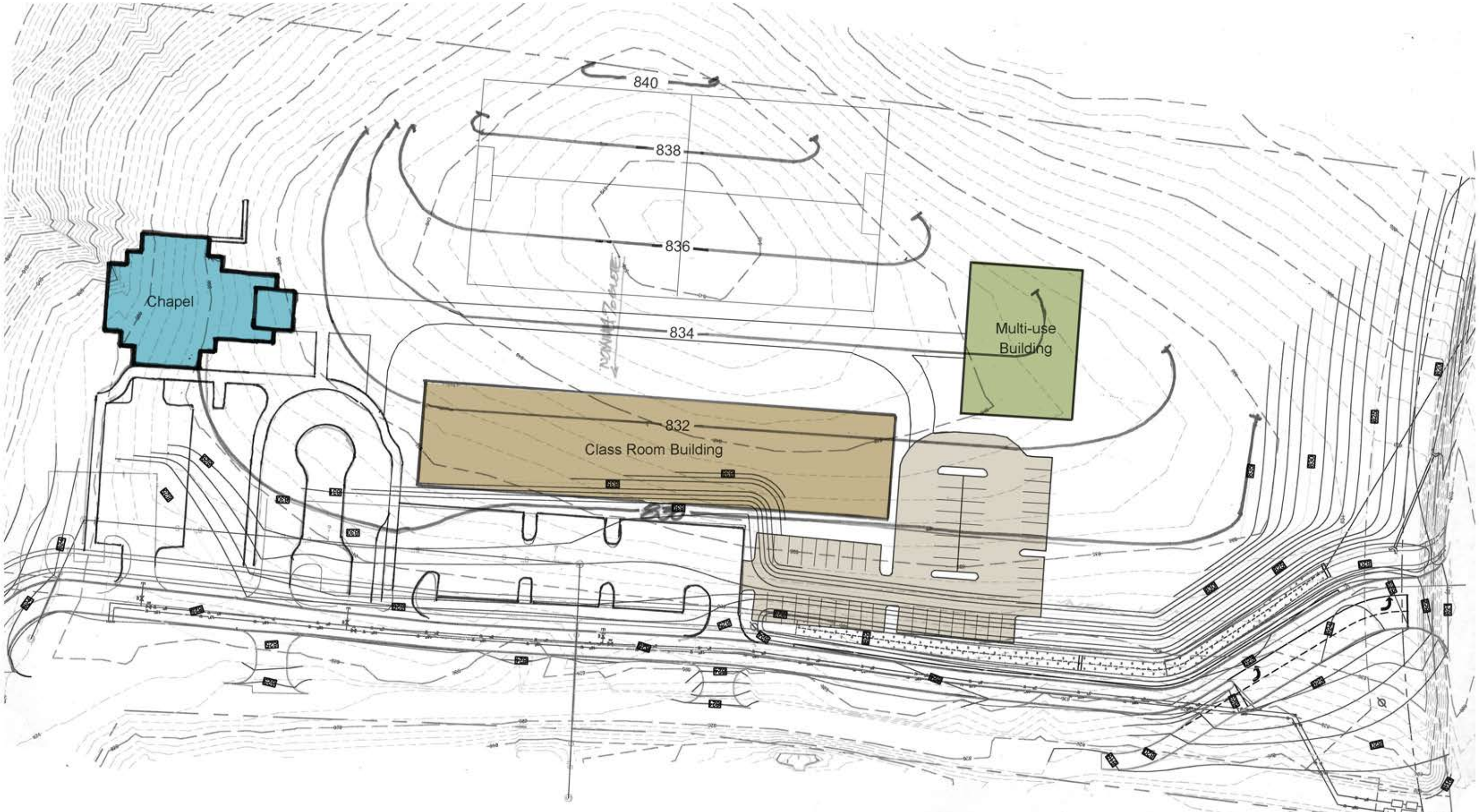
Figure 1.
Location of the Project Site



0 60 120 180

GRAPHIC SCALE 1"=60'

Parish Presbyterian Church

GDC
gamble design collaborative
Development Planning
Design and Management
144 Southeast Parkway, Suite 200
Franklin, Tennessee 37064

3. EXISTING CONDITIONS

3.1 REGIONAL AND LOCAL ACCESS

Clovercroft Road provides regional and local access to the project site. In the vicinity of the project site, this facility is a two-lane arterial roadway that travels in an east-west direction between Highway 96 (Murfreesboro Road) and Wilson Pike. In the immediate vicinity of the project site, Clovercroft Road has a posted speed limit of 40 mph. It is important to note that, in some places, the horizontal and vertical curvature of Clovercroft Road limits the available sight distance for motorists exiting properties on the either side of Clovercroft Road. The existing laneage at the intersections within the study area is shown in Figure 3.

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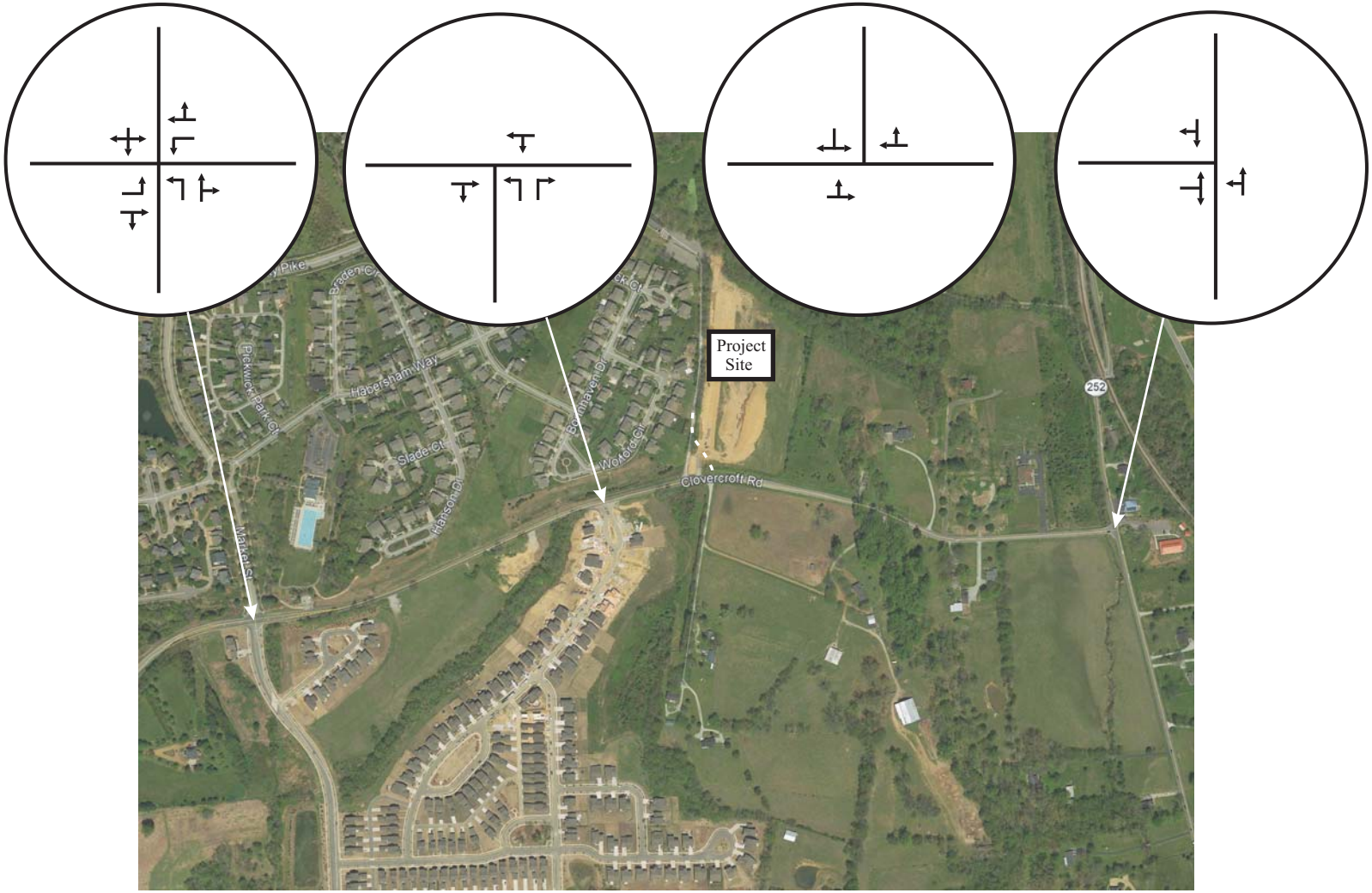

No Scale

XX - AM Peak Hour Volumes
(XX) - PM Peak Hour Volumes

Figure 3.
Existing Laneage within the Study Area

3.2 EXISTING PEAK HOUR TRAFFIC VOLUMES

In order to provide data for the traffic impact analysis, peak hour traffic volumes were counted at the following intersections:

- Clovercroft Road and Market Street
- Wilson Pike and Clovercroft Road

This data was collected from 6:00-9:00 AM and 4:00-7:00 PM on a typical weekday in July 2018. The raw traffic volumes are included in Appendix A and shown in Figure 4A. Because these traffic counts were collected when Williamson County schools were not in session, consideration was given to peak hour counts that were collected at the intersection of Wilson Pike and N. Chapel Road, south of Clovercroft Road, in April 2018. Based on these other traffic counts, which are included in Appendix A, the AM peak hour traffic volumes that were collected in July 2018 were increased by 25%, and the PM peak hour traffic volumes that were collected in July 2018 were increased by 8% in order to represent typical conditions when schools are in session. The adjusted existing peak hour traffic volumes are shown in Figure 4B.

Using the adjusted existing peak hour traffic volumes shown in Figure 4B, capacity analyses were conducted for the intersections studied. Specifically, in order to identify current peak hour levels of operation within the study area, the capacity calculations were performed according to the methods outlined in the Highway Capacity Manual 2010 (HCM2010). These analyses result in the determination of a Level of Service (LOS), which is a measure of evaluation is used to describe how well an intersection or roadway operates. LOS A represents free flow traffic operations, and LOS F suggests that the traffic demand exceeds the available capacity. In an urbanized area, LOS D is typically considered to be the minimum acceptable LOS. Table 1 presents the descriptions of LOS for unsignalized intersections.

The results of the capacity analyses for the existing peak hour traffic volumes are shown in Table 2, and Appendix B includes the capacity analyses worksheets. The analyses indicate that all of the critical turning movements at the unsignalized intersections within the study area operate at LOS D or better during both peak hours.

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No Scale

XX - AM Peak Hour Volumes
(XX) - PM Peak Hour Volumes

Figure 4A.
July 2018 Peak Hour Traffic Volumes

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No Scale

XX - AM Peak Hour Volumes
(XX) - PM Peak Hour Volumes

Figure 4B.
Revised Existing Peak Hour Traffic Volumes
(July 2018 Volumes Adjusted to Reflect School Day Conditions)

TABLE 1. DESCRIPTIONS OF LOS FOR UNSIGNALIZED INTERSECTIONS

Level of Service	Description	Average Control Delay (sec/veh)
A	Minimal delay	≤ 10
B	Brief delay	> 10 and ≤ 15
C	Average delay	> 15 and ≤ 25
D	Significant delay	> 25 and ≤ 35
E	Long delay	> 35 and ≤ 50
F	Extreme delay	> 50

Source: Highway Capacity Manual 2010 (HCM 2010)

TABLE 2. EXISTING PEAK HOUR LEVELS OF SERVICE

INTERSECTION	TURNING MOVEMENT	AM PEAK HOUR		PM PEAK HOUR	
		LEVEL OF SERVICE	95TH %-ILE QUEUE	LEVEL OF SERVICE	95TH %-ILE QUEUE
Clovercroft Road and Market Street	Eastbound Left Turns	LOS A	1 veh (9 sec/veh)	LOS A	0 veh (8 sec/veh)
	Westbound Left Turns	LOS A	0 veh (8 sec/veh)	LOS A	0 veh (8 sec/veh)
	Northbound Left Turns	LOS C	1 veh (18 sec/veh)	LOS B	1 veh (15 sec/veh)
	Northbound Thrus / Right Turns	LOS C	1 veh (15 sec/veh)	LOS B	1 veh (13 sec/veh)
	Southbound Turning Movements	LOS C	1 veh (16 sec/veh)	LOS B	1 veh (14 sec/veh)
Wilson Pike and Clovercroft Road	Eastbound Left / Right Turns	LOS D	4 veh (29 sec/veh)	LOS C	6 veh (23 sec/veh)
	Northbound Left Turns / Thrus	LOS A	1 veh (8 sec/veh)	LOS A	1 veh (8 sec/veh)

4. BACKGROUND TRAFFIC VOLUMES

In order to account for the traffic growth which will occur within the study area because of growth unrelated to the proposed project, background traffic volumes were established for the intersections within the study area. Specifically, in order to account for typical growth within the study area, consideration was given to the historical traffic volumes near the project site. The Tennessee Department of Transportation (TDOT) conducts an annual count program throughout the state. This count program includes the annual collection of average daily traffic (ADT) counts at numerous fixed locations. As shown in Table 3, the daily traffic volumes within the study area have increased steadily since 2002. For the purposes of this study, the adjusted existing traffic volumes within the study area were increased by 20% to represent initial Year 2022 background traffic volumes, as shown in Figure 5A.

TABLE 3. HISTORICAL TRAFFIC VOLUMES IN THE STUDY AREA

Year	Station 41 Clovercroft ADT	Annual Growth	Overall Growth
2003	2,210		
2004	2,259	2.22%	
2005	2,327	3.01%	
2006	2,594	11.47%	
2007	2,570	-0.93%	
2008	2,862	11.36%	
2009	2,554	-10.76%	
2010	2,891	13.19%	
2011	3,092	6.95%	
2012	3,155	2.04%	
2013	3,151	-0.13%	
2014	3,345	6.16%	
2015	3,529	5.50%	
2016	3,551	0.62%	
2017	3,939	10.93%	
2018	3,630	-7.84%	4.28%

Year	Station 49 Wilson Pike ADT	Annual Growth	
2002	1,996		
2003	2,018	1.10%	
2004	2,306	14.27%	
2005	2,524	9.45%	
2006	2,021	-19.93%	
2007	2,236	10.64%	
2008	2,306	3.13%	**Overall Growth**
2009	2,255	-2.21%	
2010	2,442	8.29%	
2011	2,167	-11.26%	
2012	1,987	-8.31%	
2013	2,434	22.50%	
2014	2,110	-13.31%	
2015	2,398	13.65%	
2016	2,305	-3.88%	
2017	3,775	63.77%	5.94%

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No Scale

XX - AM Peak Hour Volumes
(XX) - PM Peak Hour Volumes

Figure 5A.
Initial Year 2022 Background Peak Hour Traffic Volumes
(Existing Volumes Increased 20%)

In addition, it is important to note that the Amelia Park and Ingraham Property residential projects have been planned for construction on the south side of Clovercroft Road, west of the Parish Presbyterian Church site. In March 2012, Fischbach Transportation Group (FTG, LLC) prepared a Traffic Impact Study for Amelia Park, and in June 2013, Fischbach Transportation Group (FTG, LLC) prepared a Traffic Impact Study for Ingraham Property. The peak hour traffic volumes expected to be generated by those projects are shown in Figures 5B and 5C.

The traffic volumes in Figures 5B and 5C were added to the initial background traffic volumes in Figure 5A, and the resulting volumes were adjusted to show balanced traffic flows between intersections. The final Year 2022 background peak hour traffic volumes are shown in Figure 5D. Using the background peak hour traffic volumes shown in Figure 5D, capacity analyses were conducted for the intersections within the study area. For the purposes of these analyses, it was assumed that a westbound left turn lane will be provided on Clovercroft Road at Amelia Park Drive. Also, it was assumed that all other existing laneage and traffic control will be maintained and no other improvements will be made.

The results of the capacity analyses for the total projected peak hour traffic volumes are shown in Table 4, and Appendix B includes the capacity analyses worksheets. The analyses indicate that most of the critical turning movements at the unsignalized intersections within the study area operate at LOS D or better during both peak hours. However, the eastbound left and right turns at the intersection of Wilson Pike and Clovercroft Road are expected to operate at LOS F during the AM peak hour. Based on these results, additional analyses were conducted in order to identify how well these turning movements would operate if the following dedicated turn lanes were provided at this location:

- Separate eastbound left and right turn lanes.
- A separate northbound left turn lane.
- A separate southbound right turn lane.

The additional analyses indicate that the average vehicle queues and average vehicle delays would be reduced if these turn lanes were provided.

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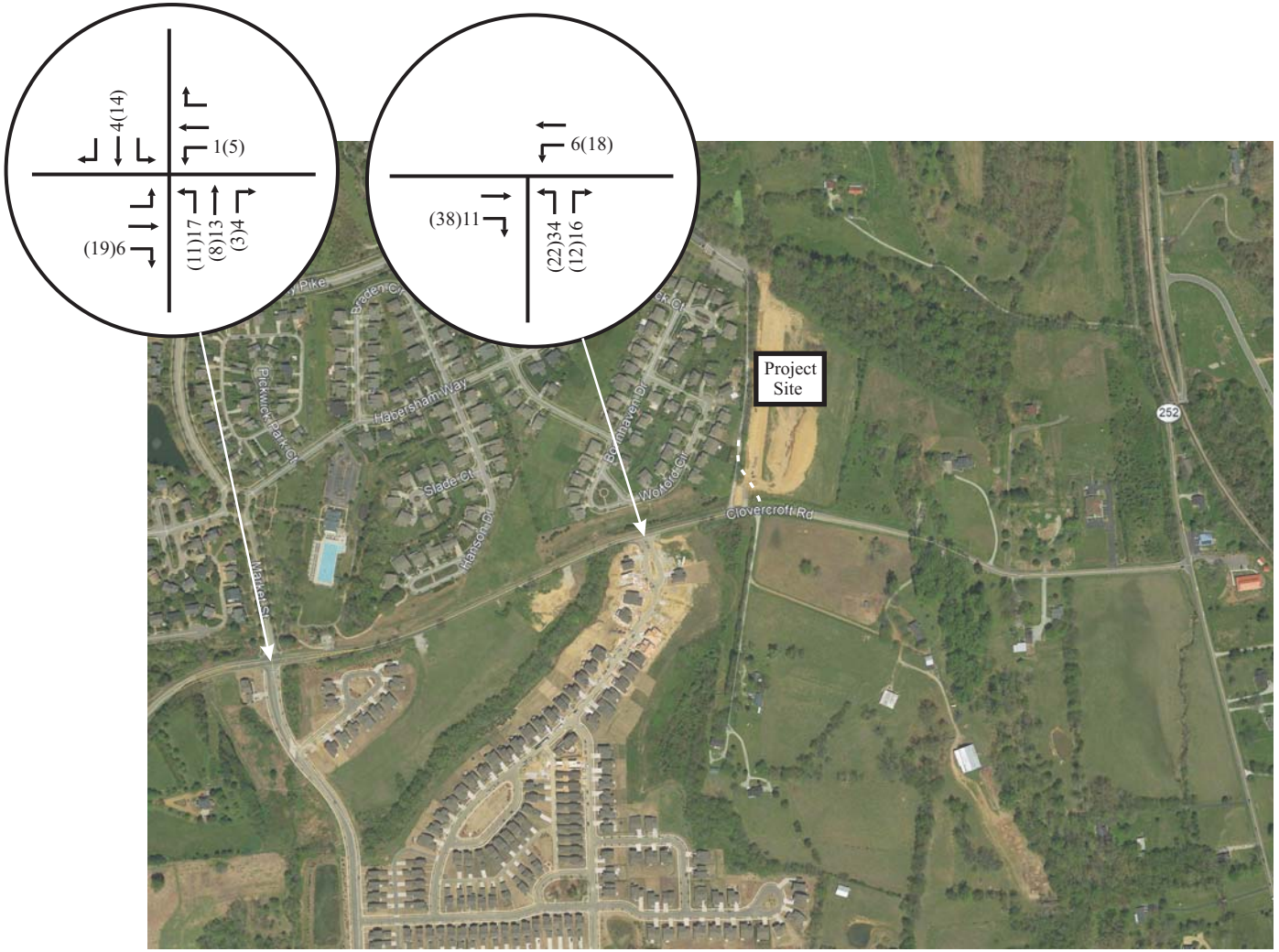

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No Scale

XX - AM Peak Hour Volumes
(XX) - PM Peak Hour Volumes

Figure 5B.
Peak Hour Traffic Volumes Expected to be Generated by Amelia Park at Full Build-Out (Based on March 2012 TIS)

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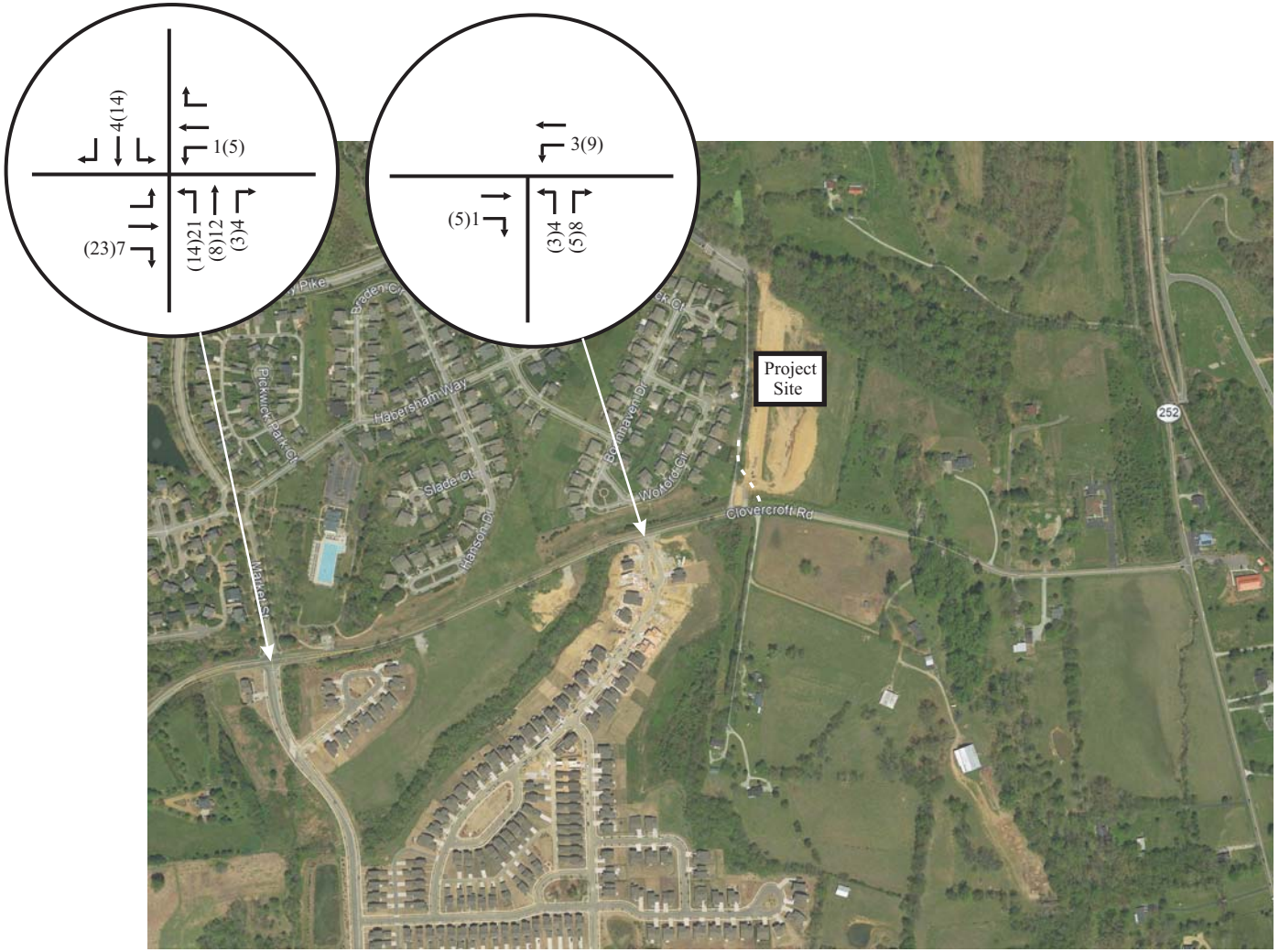

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No Scale

XX - AM Peak Hour Volumes
(XX) - PM Peak Hour Volumes

Figure 5C.
Peak Hour Traffic Volumes Expected to be Generated by Taproot Farm at Full Build-Out (Based on June 2013 TIS)

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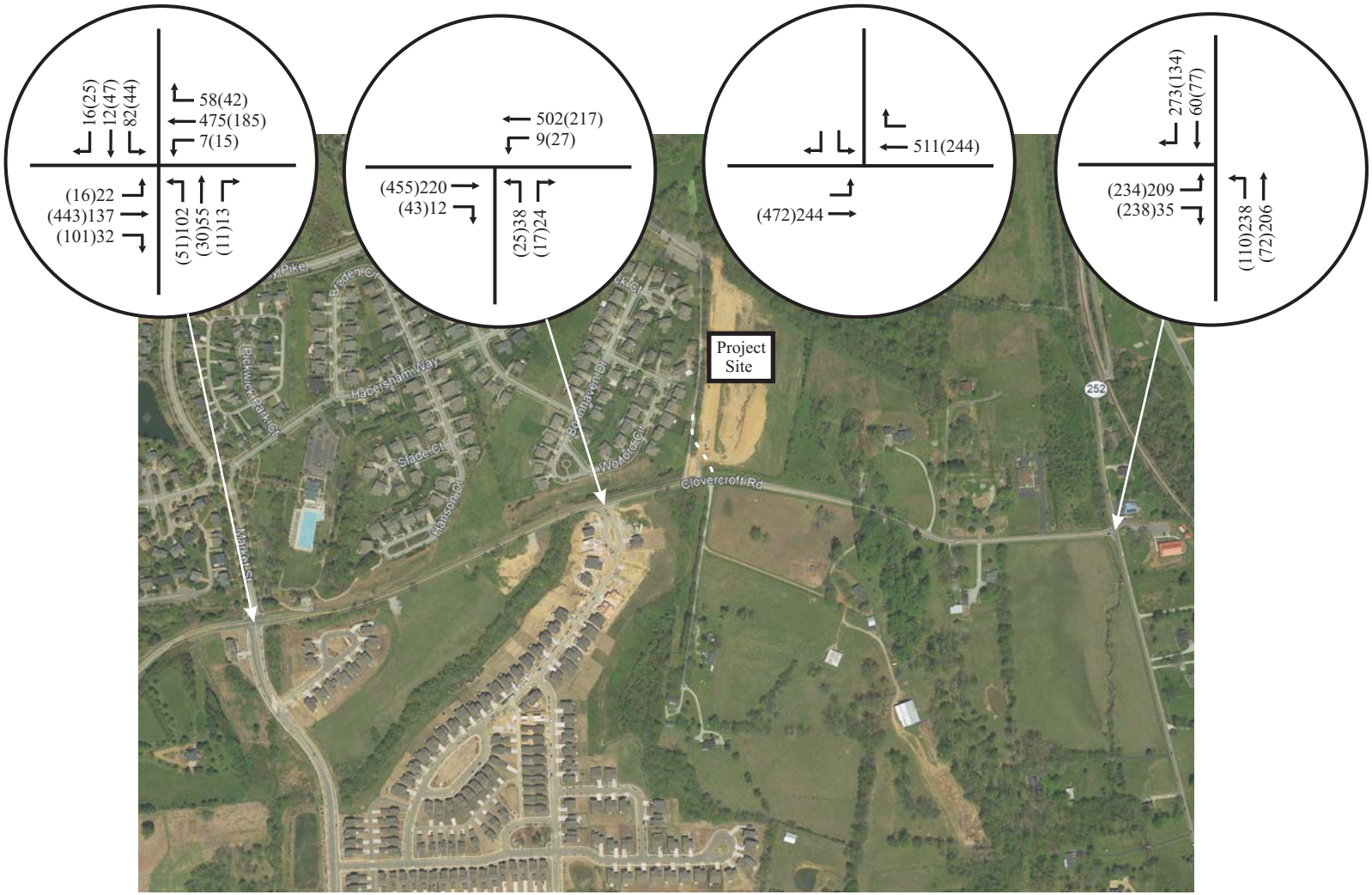

No Scale

XX - AM Peak Hour Volumes
(XX) - PM Peak Hour Volumes

Figure 5D.
Final Year 2022 Background Peak Hour Traffic Volumes

TABLE 4. BACKGROUND PEAK HOUR LEVELS OF SERVICE

INTERSECTION	TURNING MOVEMENT	AM PEAK HOUR		PM PEAK HOUR	
		LEVEL OF SERVICE	95TH %-ILE QUEUE	LEVEL OF SERVICE	95TH %-ILE QUEUE
Clovercroft Road and Market Street	Eastbound Left Turns	LOS A	1 veh (9 sec/veh)	LOS A	0 veh (8 sec/veh)
	Westbound Left Turns	LOS A	0 veh (8 sec/veh)	LOS A	0 veh (9 sec/veh)
	Northbound Left Turns	LOS D	2 veh (31 sec/veh)	LOS D	1 veh (26 sec/veh)
	Northbound Thrus / Right Turns	LOS C	1 veh (20 sec/veh)	LOS C	1 veh (17 sec/veh)
	Southbound Turning Movements	LOS D	3 veh (35 sec/veh)	LOS C	2 veh (24 sec/veh)
Wilson Pike and Clovercroft Road (existing laneage)	Eastbound Left / Right Turns	LOS F	10 veh (95 sec/veh)	LOS F	14 veh (56 sec/veh)
	Northbound Left Turns / Thrus	LOS A	1 veh (9 sec/veh)	LOS A	1 veh (8 sec/veh)
Wilson Pike and Clovercroft Road (with dedicated turn lanes)	Eastbound Left Turns	LOS F	6 veh (50 sec/veh)	LOS C	4 veh (21 sec/veh)
	Eastbound Right Turns	LOS A	1 veh (9 sec/veh)	LOS B	1 veh (10 sec/veh)
	Northbound Left Turns	LOS A	1 veh (9 sec/veh)	LOS A	1 veh (8 sec/veh)
Clovercroft Road and Amelia Park Drive	Westbound Left Turns	LOS A	0 veh (8 sec/veh)	LOS A	1 veh (9 sec/veh)
	Northbound Left Turns	LOS C	1 veh (18 sec/veh)	LOS C	1 veh (16 sec/veh)
	Northbound Right Turns	LOS A	1 veh (10 sec/veh)	LOS B	1 veh (12 sec/veh)

5. IMPACTS OF PROPOSED DEVELOPMENT

5.1 TRIP GENERATION

In order to identify how much traffic will be generated by the proposed middle school, trip generation calculations were conducted. Trip generation data for daily and peak hour trips were identified from Trip Generation, Tenth Edition, which was published by the Institute of Transportation Engineers (ITE) in 2017. Table 5 presents the daily and peak hour trip generations for proposed school, and these trip generation calculations are included in Appendix C.

TABLE 5. TRIP GENERATION

LAND USE	SIZE	DAILY TRAFFIC	GENERATED TRAFFIC			
			AM PEAK HOUR		PM PEAK HOUR	
			ENTER	ENTER	ENTER	EXIT
Private School (LUC 536)	175 students	434	85	55	13	17

5.2 TRIP DISTRIBUTION AND TRAFFIC ASSIGNMENT

For the purposes of this study, it was estimated that the trips generated by the proposed middle school will access the project site according to the directional distribution shown in Figure 6. The development of this distribution was based on the following factors:

- existing land use characteristics,
- the directions of approach of the existing traffic,
- the access proposed for the project, and
- the locations of population centers in the area.

The peak hour trip generations and directional distribution were used to add the site-generated trips to the roadway system. Figure 7 includes the peak hour traffic volumes that are expected to be generated by the proposed middle school.

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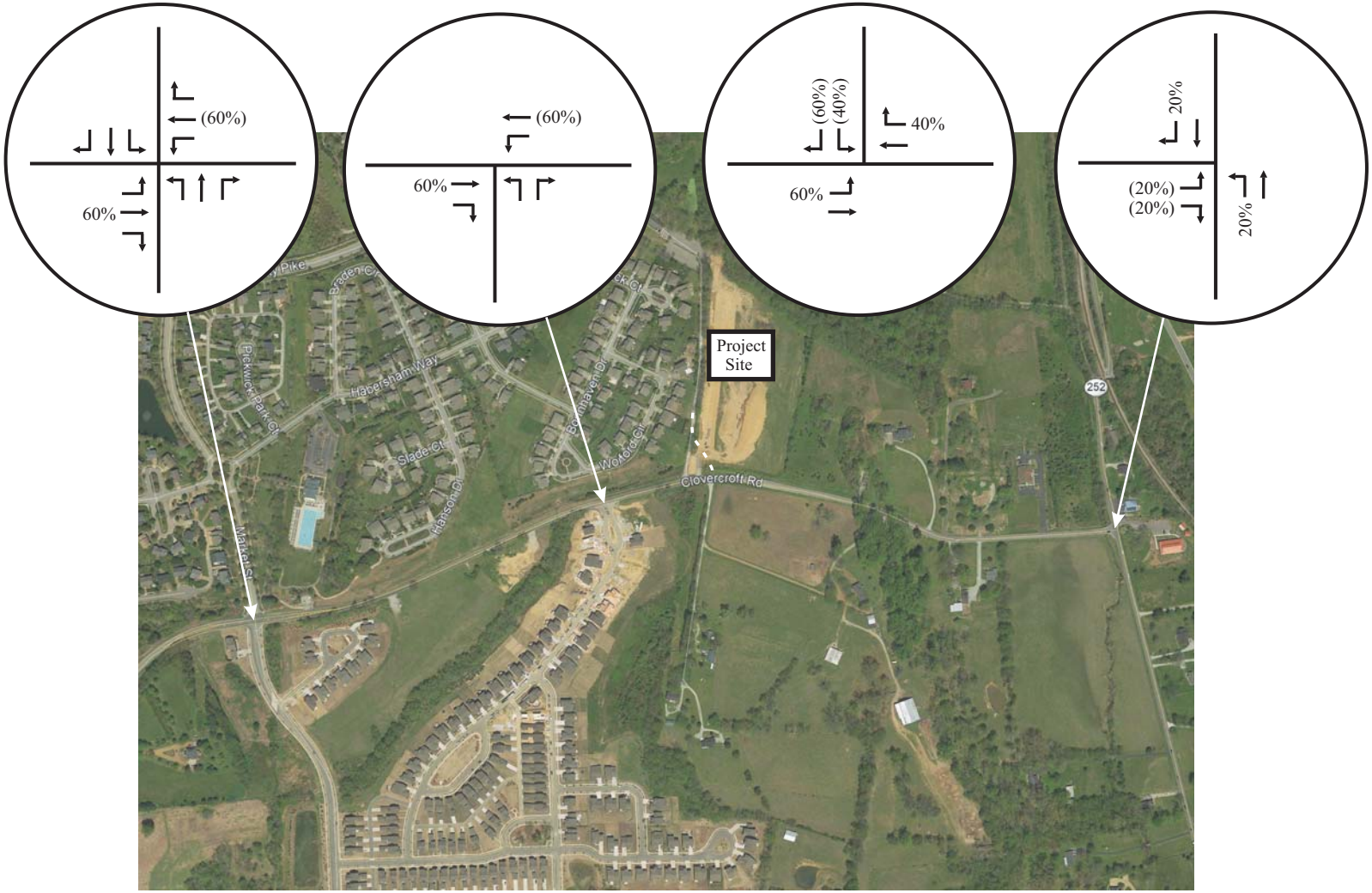

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No Scale

XX - Entering Volumes
(XX) - Exiting Volumes

Figure 6.
Directional Distribution of Peak Hour Traffic Volumes Generated by the Proposed School

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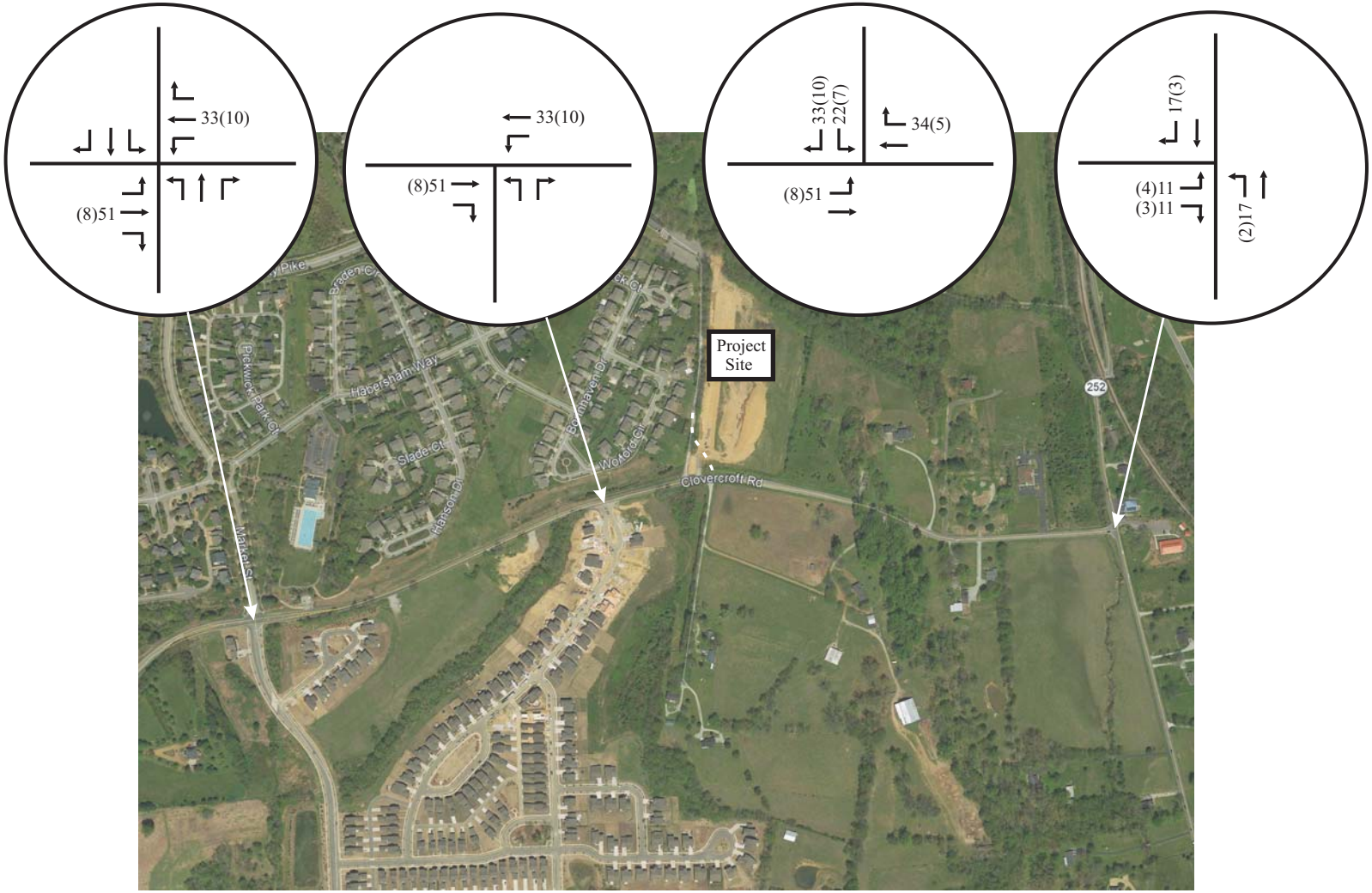

N

No Scale

XX - AM Peak Hour Volumes
(XX) - PM Peak Hour Volumes

Figure 7.
Peak Hour Traffic Volumes Generated by the Proposed School

5.3 CAPACITY ANALYSES

In order to identify the projected peak hour traffic volumes at the completion of the proposed project, the trips generated by the school were added to the background peak hour traffic volumes within the study area. The resulting peak hour volumes are shown in Figure 8.

Using the total projected peak hour traffic volumes, capacity analyses were conducted in order to evaluate the need for roadway and traffic control improvements at the project accesses. For the purposes of these analyses, the following assumptions were made:

1. The proposed project access will be constructed to include one entering lane and one exiting lane at the intersection with Clovercroft Road.

2. All of the existing laneage and traffic control will be maintained and no improvements will be made.

The results of the capacity analyses for the total projected peak hour traffic volumes are shown in Table 6, and Appendix B includes the capacity analyses worksheets. The analyses indicate that most of the critical turning movements at the unsignalized intersections within the study area operate at LOS D or better during both peak hours. However, the eastbound left and right turns at the intersection of Wilson Pike and Clovercroft Road are expected to operate at LOS F during the AM peak hour. Based on these results, additional analyses were conducted in order to identify how well these turning movements would operate if the following dedicated turn lanes were provided at this location:

- Separate eastbound left and right turn lanes.
- A separate northbound left turn lane.
- A separate southbound right turn lane.

The additional analyses indicate that the average vehicle queues and average vehicle delays would be reduced if these turn lanes were provided.

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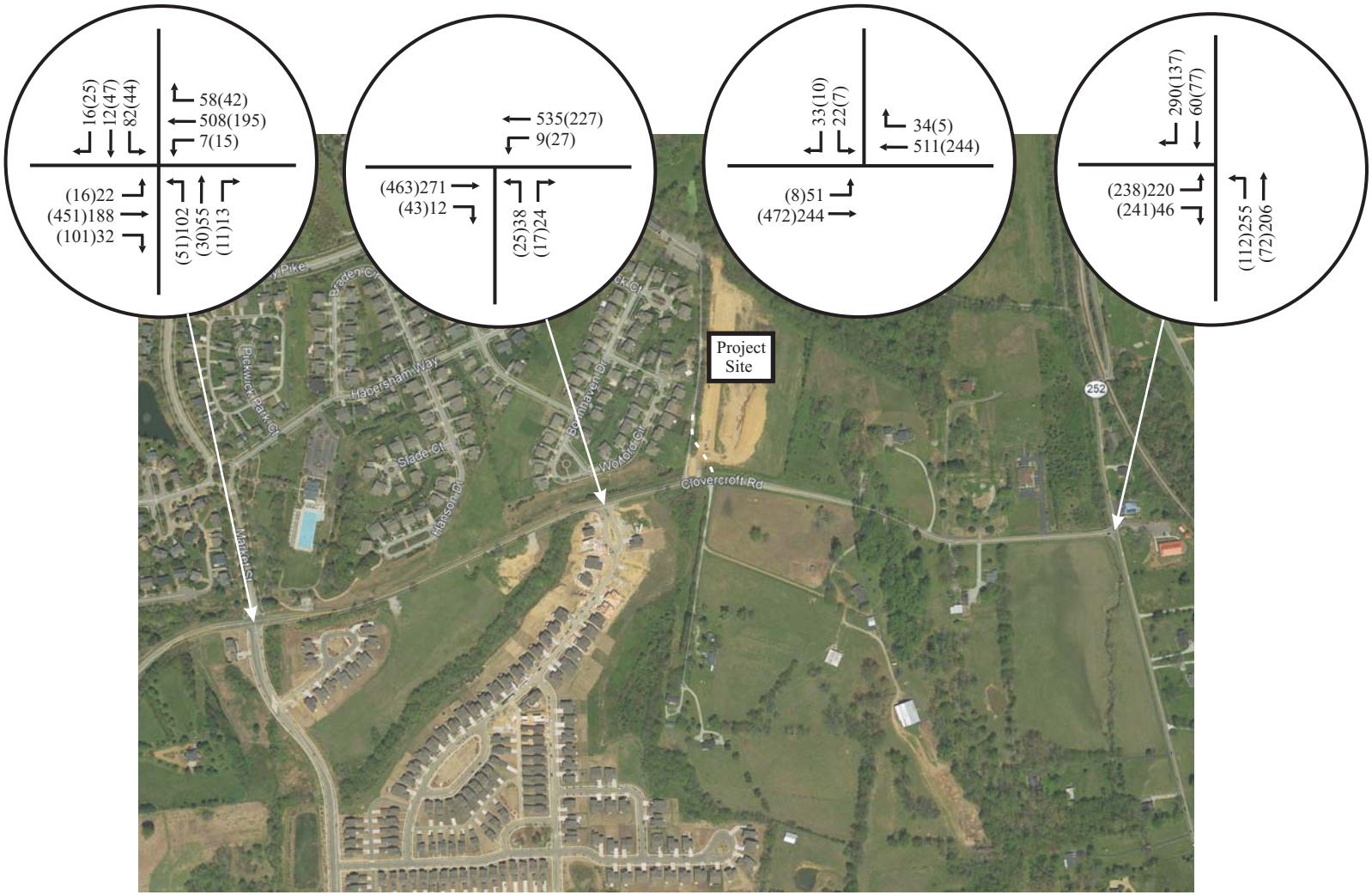


No Scale

XX - AM Peak Hour Volumes
(XX) - PM Peak Hour Volumes

Figure 8.
Total Year 2022 Projected Peak Hour Traffic Volumes

TABLE 6. TOTAL PROJECTED PEAK HOUR LEVELS OF SERVICE

INTERSECTION	TURNING MOVEMENT	AM PEAK HOUR		PM PEAK HOUR	
		LEVEL OF SERVICE	95TH %-ILE QUEUE	LEVEL OF SERVICE	95TH %-ILE QUEUE
Clovercroft Road and Market Street	Eastbound Left Turns	LOS A	1 veh (9 sec/veh)	LOS A	0 veh (8 sec/veh)
	Westbound Left Turns	LOS A	0 veh (8 sec/veh)	LOS A	0 veh (9 sec/veh)
	Northbound Left Turns	LOS E	3 veh (39 sec/veh)	LOS D	1 veh (27 sec/veh)
	Northbound Thrus / Right Turns	LOS C	1 veh (22 sec/veh)	LOS C	1 veh (18 sec/veh)
	Southbound Turning Movements	LOS E	4 veh (48 sec/veh)	LOS C	2 veh (25 sec/veh)
Wilson Pike and Clovercroft Road (existing laneage)	Eastbound Left / Right Turns	LOS F	13 veh (144 sec/v)	LOS F	15 veh (62 sec/veh)
	Northbound Left Turns / Thrus	LOS A	1 veh (9 sec/veh)	LOS A	1 veh (8 sec/veh)
Wilson Pike and Clovercroft Road (with dedicated turn lanes)	Eastbound Left Turns	LOS F	8 veh (69 sec/veh)	LOS C	4 veh (22 sec/veh)
	Eastbound Right Turns	LOS A	1 veh (9 sec/veh)	LOS B	1 veh (10 sec/veh)
	Northbound Left Turns	LOS A	1 veh (9 sec/veh)	LOS A	1 veh (8 sec/veh)
Clovercroft Road and Amelia Park Drive	Westbound Left Turns	LOS A	0 veh (8 sec/veh)	LOS A	1 veh (9 sec/veh)
	Northbound Left Turns	LOS C	1 veh (20 sec/veh)	LOS C	1 veh (17 sec/veh)
	Northbound Right Turns	LOS B	1 veh (10 sec/veh)	LOS B	1 veh (12 sec/veh)
Clovercroft Road and School Access	Eastbound Left Turns / Thrus	LOS A	1 veh (9 sec/veh)	LOS A	0 veh (8 sec/veh)
	Southbound Left / Right Turns	LOS C	1 veh (17 sec/veh)	LOS B	1 veh (12 sec/veh)

6. CONCLUSIONS AND RECOMMENDATIONS

The analyses presented in this study indicate that the following roadway and traffic control improvements and modifications should be provided in order to ensure safe and efficient traffic operations within the study area:

THE NEW SCHOOL ACCESS

As planned, the project access should be reconstructed so that it intersects Clovercroft Road east of the current church driveway at the outside of the existing curve on Clovercroft Road. The specific location of the project access should be chosen so as to maximize the sight distance available at this location.

Also, the analyses conducted for the purposes of this study indicate that the intersection of Clovercroft Road and the project access will operate acceptably even if dedicated turn lanes are not provided at this location. However, in order to facilitate safe and efficient turning movements into and out of the project site, the following laneage should be provided:

1. The project access should be constructed to include one northbound entering lane and two southbound exiting lanes, striped as a separate left and right turn lanes. Each of the exiting turn lanes should have at least 100 feet of storage and should be designed and constructed according to AASHTO standards.

2. An eastbound left turn lane and a westbound right turn lane should be provided on Clovercroft Road at the project access. Each of these turn lanes should include at least 150 feet of storage and should be designed and constructed according to AASHTO standards. Also, these turn lanes should be coordinated with the construction of the westbound left turn lane that is planned to be constructed on Clovercroft Road at Amelia Park Drive so as to eliminate any weaving sections.

SIGHT DISTANCE

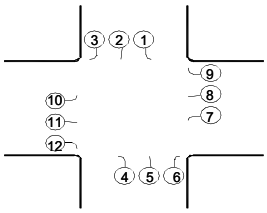
The project site has not been graded for construction and the new project access and the recommended improvements to Clovercroft Road have not been constructed, so accurate sight distance measurements cannot be collected to adequately represent the future conditions. Therefore, sight triangles should be provided for the school access in conjunction with construction documents for the proposed project. These sight triangles should be developed based on guidelines that are included in A Policy on Geometric Design of Highways and Streets, which is published by the American Association of State Highway and Transportation Officials (AASHTO) and commonly known as The Green Book. Specifically, The Green Book indicates that for a speed of 40 mph, the minimum stopping sight distance is 305 feet. This is the distance that a motorist on Clovercroft Road will need to come to a stop if a vehicle turning from the project creates a conflict. Also, based on The Green Book, the minimum intersection sight distance is 445 feet. This is the distance that a motorist on the school driveway will need to safely complete a turn onto Clovercroft Road. It is possible that the crest of the existing vertical curve on Clovercroft Road will need to be lowered to provide appropriate sight distance at the intersection of Clovercroft Road and the project access.

SCHOOL ZONE SIGNAGE

A school speed zone should be established within the study area. Specifically, on eastbound and westbound Clovercroft Road, a School Speed Limit Assembly should be installed approximately 500 feet in advance of the property boundary for the school. This assembly, which should be based on a school zone speed limit of 20 mph, should conform with the signage identified as S4-3P, R2-1, S4-1P and S4-6P within the Manual on Uniform Traffic Control Devices (MUTCD). Also, to mark the end of the school speed zone, a speed limit sign for 40 mph should be installed with an "END SCHOOL ZONE" plaque (S5-2).

In conclusion, these recommendations should be provided in conjunction with the proposed school in order to provide safe and efficient traffic operations in the vicinity of the school.

APPENDIX A
EXISTING TRAFFIC DATA

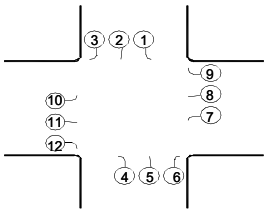


INTERSECTION TRAFFIC VOLUME COUNTS

LOCATION: Clovercroft Road and Market Street
DATE: 17-Jul-18 Tue
RECORDER: Burns
NOTES: unsignalized

LOCATION	S/B Market Street			N/B Market Street			W/B Clovercroft Road			E/B Clovercroft Road				
TIME	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**		
6:00-6:15	1	1	1	2		1		20		2	5	2	240	35
6:15-6:30	2	1		2	2			29	1	1	10	2	311	50
6:30-6:45	3		2	2	2		1	29	6		10	2	382	57
6:45-7:00	1	1	2	5	2			64	2	1	18	2	493	98
7:00-7:15	7	1	2	12	3			54	1	1	21	4	542	106
7:15-7:30	5	1	4	7	7			66	7		21	3	580	121
7:30-7:45	**5**		**3**	**12**	**6**	**2**	**2**	**96**	**4**	**1**	**32**	**5**	**580**	**168**
7:45-8:00	**8**	**1**	**3**	**6**	**2**	**1**	**1**	**75**	**13**	**6**	**27**	**4**	543	147
8:00-8:15	**6**	**1**	**4**	**7**	**4**			**79**	**11**	**7**	**22**	**3**	480	144
8:15-8:30	**4**	**1**	**3**	**17**	**8**			**67**	**10**		**10**	**1**		121
8:30-8:45	4	1	3	13	6	1	4	71	1	1	21	5		131
8:45-9:00	5	1	6	7	2	2	1	36	3	5	16			84
4:00-4:15	6	3		7	1	1	2	25	9	3	41	3	528	101
4:15-4:30	5	5	3	10	4	3		26	3	1	68	15	592	143
4:30-4:45	5	1	2	6	5			35	3	2	73	12	618	144
4:45-5:00	5	7	3	6	5		1	21	7	2	71	12	626	140
5:00-5:15	**7**	**4**	**2**	**5**	**1**			**37**	**8**	**4**	**85**	**12**	**626**	165
5:15-5:30	**7**	**6**	**2**	**5**	**4**	**2**	**3**	**41**	**4**	**1**	**85**	**9**	577	**169**
5:30-5:45	**8**	**3**	**9**	**5**	**6**	**1**		**33**	**10**	**4**	**63**	**10**	523	152
5:45-6:00	**8**	**2**	**6**	**5**		**1**	**1**	**32**	**10**	**3**	**58**	**14**	468	140
6:00-6:15	4	4	3	10	3	3		32	5	4	42	6	398	116
6:15-6:30	4	4	4	4	4	1		38	5	5	39	7		115
6:30-6:45	5	6	4	5	3	3		18	5	5	32	11		97
6:45-7:00	4	2	3	10				10	3	1	27	10		70
TOTAL	**119**	**57**	**74**	**170**	**80**	**22**	**16**	**1,034**	**131**	**60**	**897**	**154**		
AM PK HR	23	3	13	42	20	3	3	317	38	14	91	13	**7:30-8:30**	
PM PK HR	30	15	19	20	11	4	4	143	32	12	291	45	**5:00-6:00**	

AM PK PHF	0.72	0.75	0.81	0.62	0.63	0.38	0.38	0.83	0.73	0.50	0.71	0.65	**0.86**
PM PK PHF	0.94	0.63	0.53	1.00	0.46	0.50	0.33	0.87	0.80	0.75	0.86	0.80	**0.93**

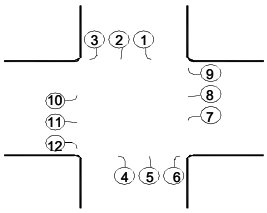


INTERSECTION TRAFFIC VOLUME COUNTS

LOCATION: Wilson Pike and Clovercroft Road
DATE: 12-Jul-18 Thu
RECORDER: Burns
NOTES: unsignalized

LOCATION	S/B Wilson Pike			N/B Wilson Pike			W/B			E/B Clovercroft Road				
TIME	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**		
6:00-6:15		3	15	13	12					6		2	279	51
6:15-6:30		3	13	14	15					7		2	331	54
6:30-6:45		3	28	19	21					10		1	416	82
6:45-7:00		7	25	25	11					18		6	509	92
7:00-7:15		6	28	23	22					16		8	580	103
7:15-7:30		9	42	38	28					17		5	630	139
7:30-7:45		**9**	**53**	**43**	**31**					**35**		**4**	**655**	**175**
7:45-8:00		**11**	**51**	**39**	**26**					**33**		**3**	616	163
8:00-8:15		**12**	**32**	**32**	**37**					**36**		**4**	582	153
8:15-8:30		**8**	**33**	**32**	**44**					**35**		**12**		164
8:30-8:45		9	35	32	25					25		10		136
8:45-9:00		11	30	30	33					20		5		129
4:00-4:15		17	12	9	6					27		33	544	104
4:15-4:30		26	22	12	9					39		40	638	148
4:30-4:45		26	20	19	13					45		34	725	157
4:45-5:00		24	20	17	12					34		28	726	135
5:00-5:15		**41**	**19**	**29**	**17**					**61**		**31**	**762**	198
5:15-5:30		**62**	**21**	**28**	**15**					**47**		**62**	679	**235**
5:30-5:45		**30**	**27**	**13**	**7**					**43**		**38**	555	158
5:45-6:00		**27**	**33**	**12**	**17**					**30**		**52**	481	171
6:00-6:15		18	30	4	7					31		25	389	115
6:15-6:30		19	17	5	5					32		33		111
6:30-6:45		18	13	8						28		17		84
6:45-7:00		10	16	7	6					19		21		79
TOTAL		**409**	**635**	**503**	**419**					**694**		**476**		
AM PK HR		40	169	146	138					139		23	**7:30-8:30**	
PM PK HR		160	100	82	56					181		183	**5:00-6:00**	

AM PK PHF		0.83	0.80	0.85	0.78					0.97		0.48	**0.94**	
PM PK PHF		0.65	0.76	0.71	0.82					0.74		0.74	**0.81**	



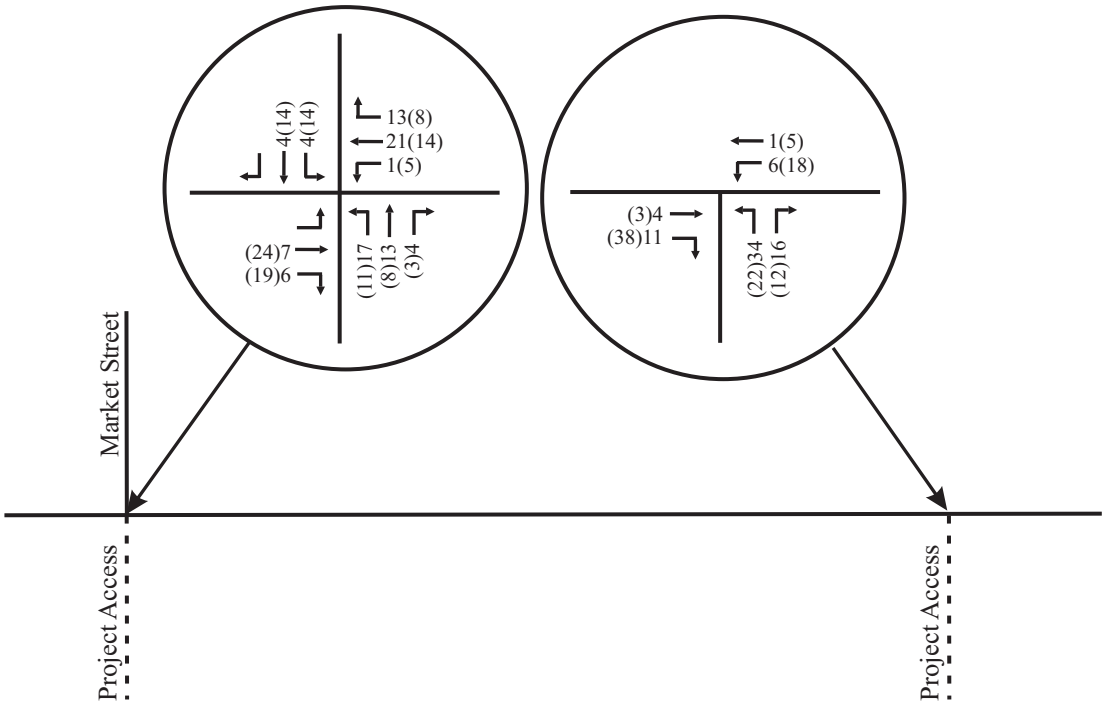
INTERSECTION TRAFFIC VOLUME COUNTS

LOCATION: Wilson Pike and N. Chapel Road
DATE: 25-Apr-18 Wed
RECORDER: Burns
NOTES: unsignalized

LOCATION	S/B			N/B N. Chapel Road			W/B Wilson Pike			E/B Wilson Pike				
TIME	1	2	3	4	5	6	7	8	9	10	11	12		
6:00-6:15				1				22			2		190	25
6:15-6:30						1		31			3	1	251	36
6:30-6:45				2		2		40			9		304	53
6:45-7:00				7				60			7	2	346	76
7:00-7:15				4		1	2	68			7	4	361	86
7:15-7:30				6			1	67			10	5	363	89
7:30-7:45				10		1	2	75			5	2	413	95
7:45-8:00				6		1		72			10	2	439	91
8:00-8:15				**5**		**2**	**1**	**69**			**9**	**2**	**451**	88
8:15-8:30				**9**		**1**	**9**	**101**			**14**	**5**		**139**
8:30-8:45				**8**		**4**	**11**	**74**			**18**	**6**		121
8:45-9:00				**10**		**4**	**1**	**79**			**8**	**1**		103
4:00-4:15				10		5	1	24			30	8	342	78
4:15-4:30				4		4	2	14			52	9	352	85
4:30-4:45				1		1	1	24			52	12	356	91
4:45-5:00				7		1	1	18			47	14	361	88
5:00-5:15				3		1		20			52	12	361	88
5:15-5:30				**6**		**2**	**1**	**13**			**56**	**11**	**368**	89
5:30-5:45				**5**		**1**	**2**	**19**			**59**	**10**	362	**96**
5:45-6:00				**2**		**2**	**2**	**18**			**53**	**11**	306	88
6:00-6:15				**10**		**1**		**22**			**51**	**11**	267	95
6:15-6:30				2		1	4	17			53	6		83
6:30-6:45				3				10			19	8		40
6:45-7:00				6			2	8			23	10		49
TOTAL				**127**		**36**	**43**	**965**			**649**	**152**		
AM PK HR				32		11	22	323			49	14	**8:00-9:00**	
PM PK HR				23		6	5	72			219	43	**5:15-6:15**	

AM PK PHF				0.80		0.69	0.50	0.80			0.68	0.58	**0.81**	
PM PK PHF				0.58		0.75	0.63	0.82			0.93	0.98	**0.96**	

F i s c h b a c h
Transportation Group, Inc.
Traffic Engineering and Planning



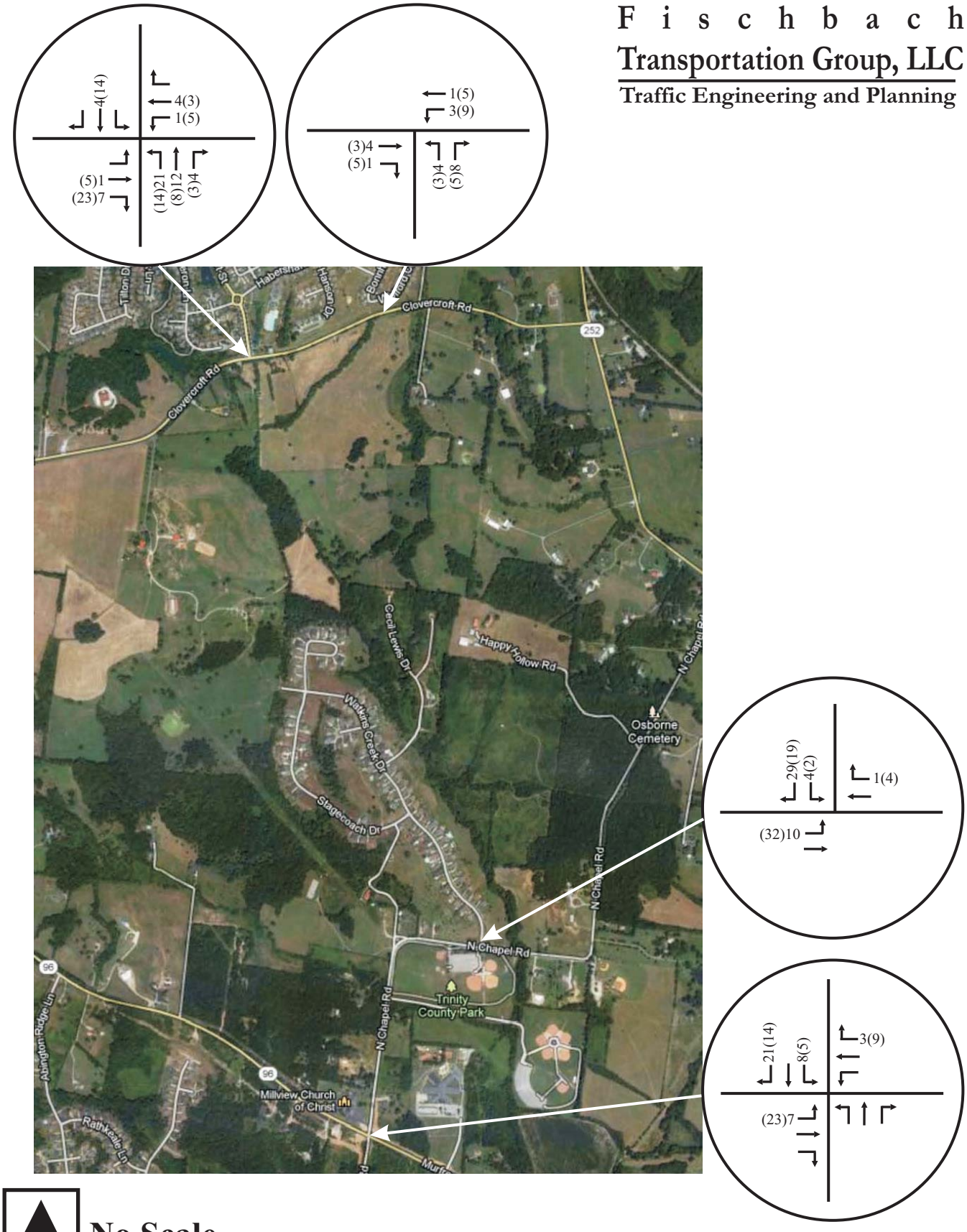
N

No Scale

XX - AM Peak Hour Volumes
(XX) - PM Peak Hour Volumes

Figure 7.
Peak Hour Traffic Volumes Generated by the Proposed Project

F i s c h b a c h
Transportation Group, LLC
Traffic Engineering and Planning



No Scale

XX - AM Peak Hour Volumes
(XX) - PM Peak Hour Volumes

Figure 6.
Peak Hour Traffic Volumes
Generated by the Proposed Project

APPENDIX B
CAPACITY ANALYSES

EXISTING CONDITIONS

HCS7 Two-Way Stop-Control Report

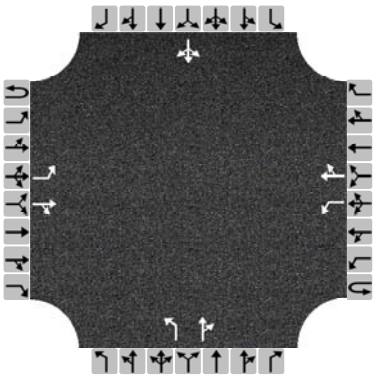
General Information

Analyst	FTG
Agency/Co.	FTG
Date Performed	Aug 2018
Analysis Year	2018
Time Analyzed	AM Peak Hour
Intersection Orientation	East-West
Project Description	10951 (Existing)

Site Information

Intersection	Clovercroft and Market
Jurisdiction	Franklin, TN
East/West Street	Clovercroft Road
North/South Street	Market Street
Peak Hour Factor	0.86
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	1	1	0		1	1	0		0	1	0
Configuration		L		TR		L		TR		L		TR			LTR	
Volume, V (veh/h)		18	114	16		4	396	48		53	25	4		23	3	13
Percent Heavy Vehicles (%)		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.10				4.10				7.10	6.50	6.20		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		21				5				62		34			45	
Capacity, c (veh/h)		1060				1443				344		386			387	
v/c Ratio		0.02				0.00				0.18		0.09			0.12	
95% Queue Length, Q_{95} (veh)		0.1				0.0				0.6		0.3			0.4	
Control Delay (s/veh)		8.5				7.5				17.8		15.2			15.5	
Level of Service, LOS		A				A				C		C			C	
Approach Delay (s/veh)		1.0				0.1				16.9				15.5		
Approach LOS										C				C		

HCS7 Two-Way Stop-Control Report

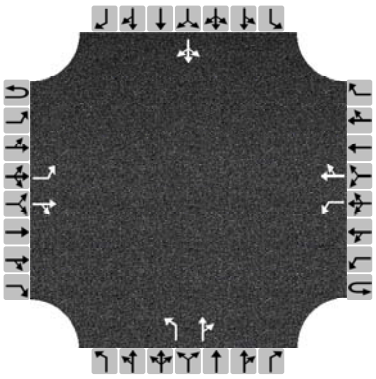
General Information

Analyst	FTG
Agency/Co.	FTG
Date Performed	Aug 2018
Analysis Year	2018
Time Analyzed	PM Peak Hour
Intersection Orientation	East-West
Project Description	10951 (Existing)

Site Information

Intersection	Clovercroft and Market
Jurisdiction	Franklin, TN
East/West Street	Clovercroft Road
North/South Street	Market Street
Peak Hour Factor	0.93
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	1	1	0		1	1	0		0	1	0
Configuration		L		TR		L		TR		L		TR			LTR	
Volume, V (veh/h)		13	314	49		4	154	35		22	12	4		32	16	21
Percent Heavy Vehicles (%)		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.10				4.10				7.10	6.50	6.20		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		14				4				24		17			74	
Capacity, c (veh/h)		1381				1180				385		455			482	
v/c Ratio		0.01				0.00				0.06		0.04			0.15	
95% Queue Length, Q_{95} (veh)		0.0				0.0				0.2		0.1			0.5	
Control Delay (s/veh)		7.6				8.1				15.0		13.2			13.8	
Level of Service, LOS		A				A				B		B			B	
Approach Delay (s/veh)		0.3				0.2				14.2				13.8		
Approach LOS										B				B		

HCS7 Two-Way Stop-Control Report

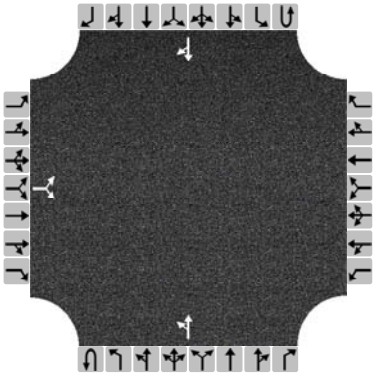
General Information

Analyst	FTG
Agency/Co.	FTG
Date Performed	Aug 2018
Analysis Year	2018
Time Analyzed	AM Peak Hour
Intersection Orientation	North-South
Project Description	10951 (Existing)

Site Information

Intersection	Wilson and Clovercroft
Jurisdiction	Franklin, TN
East/West Street	Clovercroft Road
North/South Street	Wilson Pike
Peak Hour Factor	0.94
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume, V (veh/h)		174		29						183	172				50	211
Percent Heavy Vehicles (%)		0		0						0						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.40		6.20						4.10						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.50		3.30						2.20						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			216							195						
Capacity, c (veh/h)			362							1297						
v/c Ratio			0.60							0.15						
95% Queue Length, Q_{95} (veh)			3.7							0.5						
Control Delay (s/veh)			28.6							8.3						
Level of Service, LOS			D							A						
Approach Delay (s/veh)		28.6								4.9						
Approach LOS		D														

HCS7 Two-Way Stop-Control Report

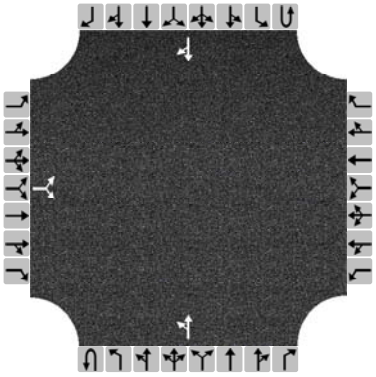
General Information

Analyst	FTG
Agency/Co.	FTG
Date Performed	Aug 2018
Analysis Year	2018
Time Analyzed	PM Peak Hour
Intersection Orientation	North-South
Project Description	10951 (Existing)

Site Information

Intersection	Wilson and Clovercroft
Jurisdiction	Franklin, TN
East/West Street	Clovercroft Road
North/South Street	Wilson Pike
Peak Hour Factor	0.81
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume, V (veh/h)		195		198						89	60				64	108
Percent Heavy Vehicles (%)		0		0						0						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.40		6.20						4.10						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.50		3.30						2.20						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			485							110						
Capacity, c (veh/h)			672							1371						
v/c Ratio			0.72							0.08						
95% Queue Length, Q_{95} (veh)			6.2							0.3						
Control Delay (s/veh)			23.0							7.9						
Level of Service, LOS			C							A						
Approach Delay (s/veh)		23.0								5.0						
Approach LOS		C														

BACKGROUND CONDITIONS

HCS7 Two-Way Stop-Control Report

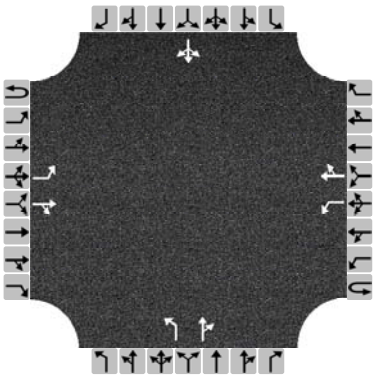
General Information

Analyst	FTG
Agency/Co.	FTG
Date Performed	Aug 2018
Analysis Year	2022
Time Analyzed	AM Peak Hour
Intersection Orientation	East-West
Project Description	10951 (Back)

Site Information

Intersection	Clovercroft and Market
Jurisdiction	Franklin, TN
East/West Street	Clovercroft Road
North/South Street	Market Street
Peak Hour Factor	0.86
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	1	1	0		1	1	0		0	1	0
Configuration		L		TR		L		TR		L		TR			LTR	
Volume, V (veh/h)		22	137	32		7	475	58		102	55	13		82	12	16
Percent Heavy Vehicles (%)		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.10				4.10				7.10	6.50	6.20		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		26				8				119		79			128	
Capacity, c (veh/h)		970				1388				257		326			244	
v/c Ratio		0.03				0.01				0.46		0.24			0.52	
95% Queue Length, Q_{95} (veh)		0.1				0.0				2.3		0.9			2.8	
Control Delay (s/veh)		8.8				7.6				30.5		19.5			34.8	
Level of Service, LOS		A				A				D		C			D	
Approach Delay (s/veh)		1.0				0.1				26.1				34.8		
Approach LOS										D				D		

HCS7 Two-Way Stop-Control Report

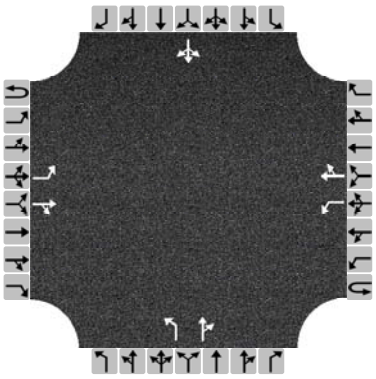
General Information

Analyst	FTG
Agency/Co.	FTG
Date Performed	Aug 2018
Analysis Year	2022
Time Analyzed	PM Peak Hour
Intersection Orientation	East-West
Project Description	10951 (Back)

Site Information

Intersection	Clovercroft and Market
Jurisdiction	Franklin, TN
East/West Street	Clovercroft Road
North/South Street	Market Street
Peak Hour Factor	0.93
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	1	1	0		1	1	0		0	1	0
Configuration		L		TR		L		TR		L		TR			LTR	
Volume, V (veh/h)		16	443	101		15	185	42		51	30	11		44	47	25
Percent Heavy Vehicles (%)		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.10				4.10				7.10	6.50	6.20		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		17				16				55		44			125	
Capacity, c (veh/h)		1334				1000				228		337			312	
v/c Ratio		0.01				0.02				0.24		0.13			0.40	
95% Queue Length, Q_{95} (veh)		0.0				0.0				0.9		0.4			1.9	
Control Delay (s/veh)		7.7				8.7				25.7		17.3			24.0	
Level of Service, LOS		A				A				D		C			C	
Approach Delay (s/veh)		0.2				0.5				22.0				24.0		
Approach LOS										C				C		

HCS7 Two-Way Stop-Control Report

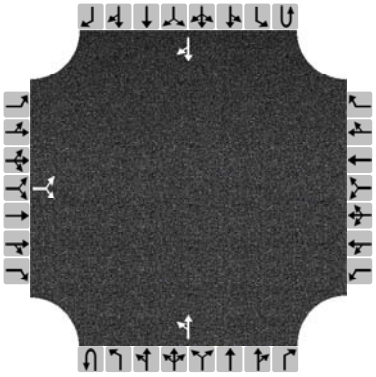
General Information

Analyst	FTG
Agency/Co.	FTG
Date Performed	Aug 2018
Analysis Year	2022
Time Analyzed	AM Peak Hour
Intersection Orientation	North-South
Project Description	10951 (Back)

Site Information

Intersection	Wilson and Clovercroft
Jurisdiction	Franklin, TN
East/West Street	Clovercroft Road
North/South Street	Wilson Pike
Peak Hour Factor	0.94
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume, V (veh/h)		209		35						238	206				60	273
Percent Heavy Vehicles (%)		0		0						0						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.40		6.20						4.10						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.50		3.30						2.20						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			260							253						
Capacity, c (veh/h)			262							1216						
v/c Ratio			0.99							0.21						
95% Queue Length, Q_{95} (veh)			9.7							0.8						
Control Delay (s/veh)			94.6							8.7						
Level of Service, LOS			F							A						
Approach Delay (s/veh)		94.6								5.6						
Approach LOS		F														

HCS7 Two-Way Stop-Control Report

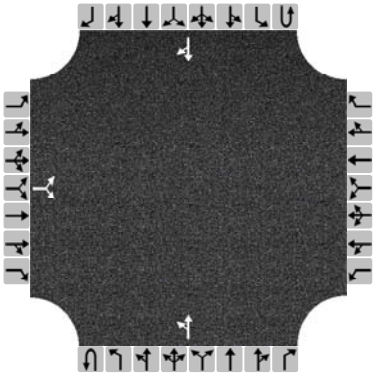
General Information

Analyst	FTG
Agency/Co.	FTG
Date Performed	Aug 2018
Analysis Year	2022
Time Analyzed	PM Peak Hour
Intersection Orientation	North-South
Project Description	10951 (Back)

Site Information

Intersection	Wilson and Clovercroft
Jurisdiction	Franklin, TN
East/West Street	Clovercroft Road
North/South Street	Wilson Pike
Peak Hour Factor	0.81
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume, V (veh/h)		234		238						110	72				77	134
Percent Heavy Vehicles (%)		0		0						0						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.40		6.20						4.10						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.50		3.30						2.20						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			583							136						
Capacity, c (veh/h)			599							1316						
v/c Ratio			0.97							0.10						
95% Queue Length, Q_{95} (veh)			13.8							0.3						
Control Delay (s/veh)			56.4							8.0						
Level of Service, LOS			F							A						
Approach Delay (s/veh)		56.4								5.2						
Approach LOS		F														

HCS7 Two-Way Stop-Control Report

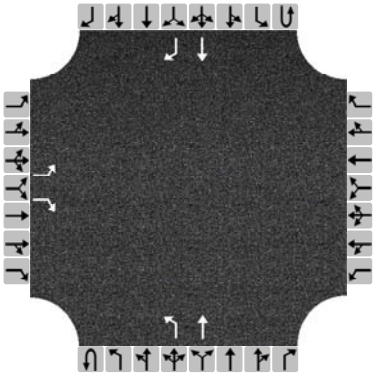
General Information

Analyst	FTG
Agency/Co.	FTG
Date Performed	Aug 2018
Analysis Year	2022
Time Analyzed	AM Peak Hour
Intersection Orientation	North-South
Project Description	10951 (Back)

Site Information

Intersection	Wilson and Clovercroft
Jurisdiction	Franklin, TN
East/West Street	Clovercroft Road
North/South Street	Wilson Pike
Peak Hour Factor	0.94
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		1	0	1		0	0	0	0	1	1	0	0	0	1	1
Configuration		L		R						L	T				T	R
Volume, V (veh/h)		209		35						238	206				60	273
Percent Heavy Vehicles (%)		0		0						0						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.40		6.20						4.10						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.50		3.30						2.20						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		222		37						253						
Capacity, c (veh/h)		287		1006						1216						
v/c Ratio		0.77		0.04						0.21						
95% Queue Length, Q_{95} (veh)		5.9		0.1						0.8						
Control Delay (s/veh)		50.2		8.7						8.7						
Level of Service, LOS		F		A						A						
Approach Delay (s/veh)		44.3								4.7						
Approach LOS		E														

HCS7 Two-Way Stop-Control Report

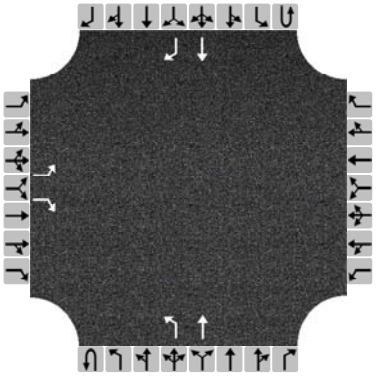
General Information

Analyst	FTG
Agency/Co.	FTG
Date Performed	Aug 2018
Analysis Year	2022
Time Analyzed	PM Peak Hour
Intersection Orientation	North-South
Project Description	10951 (Back)

Site Information

Intersection	Wilson and Clovercroft
Jurisdiction	Franklin, TN
East/West Street	Clovercroft Road
North/South Street	Wilson Pike
Peak Hour Factor	0.81
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		1	0	1		0	0	0	0	1	1	0	0	0	1	1
Configuration		L		R						L	T				T	R
Volume, V (veh/h)		234		238						110	72				77	134
Percent Heavy Vehicles (%)		0		0						0						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.40		6.20						4.10						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.50		3.30						2.20						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		289		294						136						
Capacity, c (veh/h)		508		967						1316						
v/c Ratio		0.57		0.30						0.10						
95% Queue Length, Q_{95} (veh)		3.5		1.3						0.3						
Control Delay (s/veh)		21.0		10.3						8.0						
Level of Service, LOS		C		B						A						
Approach Delay (s/veh)		15.6								4.9						
Approach LOS		C														

HCS7 Two-Way Stop-Control Report

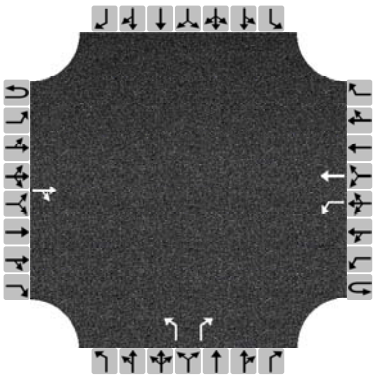
General Information

Analyst	FTG
Agency/Co.	FTG
Date Performed	Aug 2018
Analysis Year	2022
Time Analyzed	AM Peak Hour
Intersection Orientation	East-West
Project Description	10951 (Back)

Site Information

Intersection	Clovercroft and Amelia
Jurisdiction	Franklin, TN
East/West Street	Clovercroft Road
North/South Street	Amelia Park
Peak Hour Factor	0.86
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	1	1	0		1	0	1		0	0	0
Configuration				TR		L	T			L		R				
Volume, V (veh/h)			220	12		9	502			38		24				
Percent Heavy Vehicles (%)						0				0		0				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.10				6.40		6.20				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.20				3.50		3.30				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						10				44		28				
Capacity, c (veh/h)						1305				323		781				
v/c Ratio						0.01				0.14		0.04				
95% Queue Length, Q_{95} (veh)						0.0				0.5		0.1				
Control Delay (s/veh)						7.8				17.9		9.8				
Level of Service, LOS						A				C		A				
Approach Delay (s/veh)						0.1				14.7						
Approach LOS										B						

HCS7 Two-Way Stop-Control Report

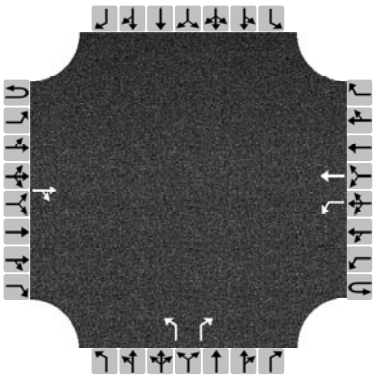
General Information

Analyst	FTG
Agency/Co.	FTG
Date Performed	Aug 2018
Analysis Year	2022
Time Analyzed	PM Peak Hour
Intersection Orientation	East-West
Project Description	10951 (Back)

Site Information

Intersection	Clovercroft and Amelia
Jurisdiction	Franklin, TN
East/West Street	Clovercroft Road
North/South Street	Amelia Park
Peak Hour Factor	0.93
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	1	1	0		1	0	1		0	0	0
Configuration				TR		L	T			L		R				
Volume, V (veh/h)			455	43		27	217			25		17				
Percent Heavy Vehicles (%)						0				0		0				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.10				6.40		6.20				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.20				3.50		3.30				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						29				27		18				
Capacity, c (veh/h)						1043				345		566				
v/c Ratio						0.03				0.08		0.03				
95% Queue Length, Q_{95} (veh)						0.1				0.3		0.1				
Control Delay (s/veh)						8.5				16.3		11.6				
Level of Service, LOS						A				C		B				
Approach Delay (s/veh)						0.9				14.4						
Approach LOS										B						

TOTAL PROJECTED CONDITIONS

HCS7 Two-Way Stop-Control Report

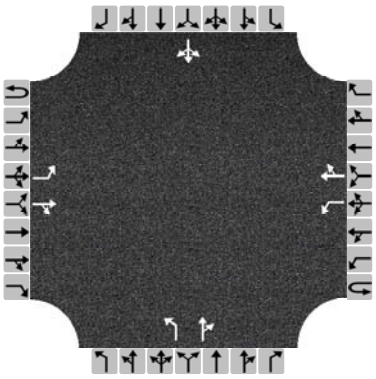
General Information

Analyst	FTG
Agency/Co.	FTG
Date Performed	Aug 2018
Analysis Year	2022
Time Analyzed	AM Peak Hour
Intersection Orientation	East-West
Project Description	10951 (Total)

Site Information

Intersection	Clovercroft and Market
Jurisdiction	Franklin, TN
East/West Street	Clovercroft Road
North/South Street	Market Street
Peak Hour Factor	0.86
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	1	1	0		1	1	0		0	1	0
Configuration		L		TR		L		TR		L		TR			LTR	
Volume, V (veh/h)		22	188	32		7	508	58		102	55	13		82	12	16
Percent Heavy Vehicles (%)		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.10				4.10				7.10	6.50	6.20		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		26				8				119		79			128	
Capacity, c (veh/h)		939				1321				219		287			206	
v/c Ratio		0.03				0.01				0.54		0.28			0.62	
95% Queue Length, Q_{95} (veh)		0.1				0.0				2.9		1.1			3.6	
Control Delay (s/veh)		8.9				7.7				39.3		22.2			47.5	
Level of Service, LOS		A				A				E		C			E	
Approach Delay (s/veh)		0.8				0.1				32.5				47.5		
Approach LOS										D				E		

HCS7 Two-Way Stop-Control Report

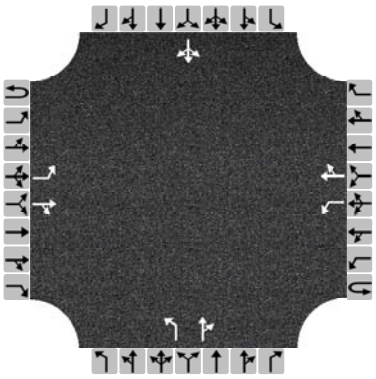
General Information

Analyst	FTG
Agency/Co.	FTG
Date Performed	Aug 2018
Analysis Year	2022
Time Analyzed	PM Peak Hour
Intersection Orientation	East-West
Project Description	10951 (Total)

Site Information

Intersection	Clovercroft and Market
Jurisdiction	Franklin, TN
East/West Street	Clovercroft Road
North/South Street	Market Street
Peak Hour Factor	0.93
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	1	1	0		1	1	0		0	1	0
Configuration		L		TR		L		TR		L		TR			LTR	
Volume, V (veh/h)		16	451	101		15	195	42		51	30	11		44	47	25
Percent Heavy Vehicles (%)		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.10				4.10				7.10	6.50	6.20		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		17				16				55		44			125	
Capacity, c (veh/h)		1322				992				220		329			303	
v/c Ratio		0.01				0.02				0.25		0.13			0.41	
95% Queue Length, Q_{95} (veh)		0.0				0.0				1.0		0.5			1.9	
Control Delay (s/veh)		7.8				8.7				26.7		17.6			24.9	
Level of Service, LOS		A				A				D		C			C	
Approach Delay (s/veh)		0.2				0.5				22.6				24.9		
Approach LOS										C				C		

HCS7 Two-Way Stop-Control Report

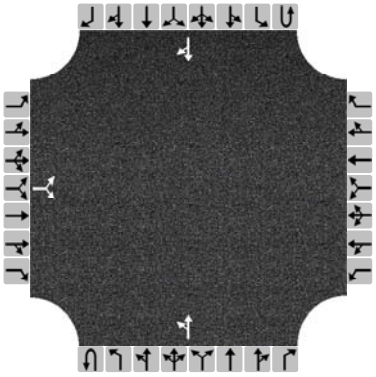
General Information

Analyst	FTG
Agency/Co.	FTG
Date Performed	Aug 2018
Analysis Year	2022
Time Analyzed	AM Peak Hour
Intersection Orientation	North-South
Project Description	10951 (Total)

Site Information

Intersection	Wilson and Clovercroft
Jurisdiction	Franklin, TN
East/West Street	Clovercroft Road
North/South Street	Wilson Pike
Peak Hour Factor	0.94
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume, V (veh/h)		220		46						255	206				60	290
Percent Heavy Vehicles (%)		0		0						0						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.40		6.20						4.10						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.50		3.30						2.20						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			283							271						
Capacity, c (veh/h)			248							1198						
v/c Ratio			1.14							0.23						
95% Queue Length, Q_{95} (veh)			12.7							0.9						
Control Delay (s/veh)			143.6							8.9						
Level of Service, LOS			F							A						
Approach Delay (s/veh)		143.6								5.9						
Approach LOS		F														

HCS7 Two-Way Stop-Control Report

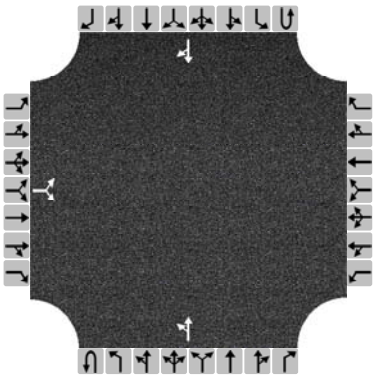
General Information

Analyst	FTG
Agency/Co.	FTG
Date Performed	Aug 2018
Analysis Year	2022
Time Analyzed	PM Peak Hour
Intersection Orientation	North-South
Project Description	10951 (Total)

Site Information

Intersection	Wilson and Clovercroft
Jurisdiction	Franklin, TN
East/West Street	Clovercroft Road
North/South Street	Wilson Pike
Peak Hour Factor	0.81
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume, V (veh/h)		238		241						112	72				77	137
Percent Heavy Vehicles (%)		0		0						0						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.40		6.20						4.10						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.50		3.30						2.20						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			591							138						
Capacity, c (veh/h)			594							1312						
v/c Ratio			1.00							0.11						
95% Queue Length, Q_{95} (veh)			14.7							0.4						
Control Delay (s/veh)			62.2							8.1						
Level of Service, LOS			F							A						
Approach Delay (s/veh)		62.2								5.3						
Approach LOS		F														

HCS7 Two-Way Stop-Control Report

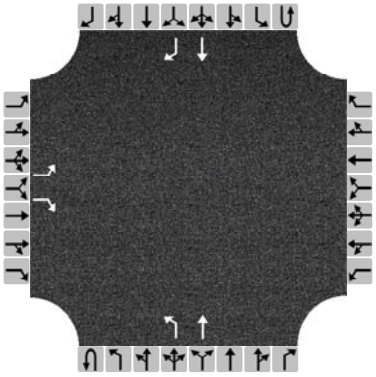
General Information

Analyst	FTG
Agency/Co.	FTG
Date Performed	Aug 2018
Analysis Year	2022
Time Analyzed	AM Peak Hour
Intersection Orientation	North-South
Project Description	10951 (Total)

Site Information

Intersection	Wilson and Clovercroft
Jurisdiction	Franklin, TN
East/West Street	Clovercroft Road
North/South Street	Wilson Pike
Peak Hour Factor	0.94
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		1	0	1		0	0	0	0	1	1	0	0	0	1	1
Configuration		L		R						L	T				T	R
Volume, V (veh/h)		220		46						255	206				60	290
Percent Heavy Vehicles (%)		0		0						0						
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized	No				No				No				No			
Median Type/Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.40		6.20						4.10						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.50		3.30						2.20						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		234		49						271						
Capacity, c (veh/h)		267		1006						1198						
v/c Ratio		0.88		0.05						0.23						
95% Queue Length, Q_{95} (veh)		7.6		0.2						0.9						
Control Delay (s/veh)		69.1		8.8						8.9						
Level of Service, LOS		F		A						A						
Approach Delay (s/veh)	58.6								4.9							
Approach LOS	F															

HCS7 Two-Way Stop-Control Report

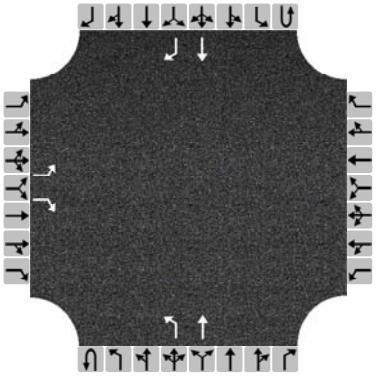
General Information

Analyst	FTG
Agency/Co.	FTG
Date Performed	Aug 2018
Analysis Year	2022
Time Analyzed	PM Peak Hour
Intersection Orientation	North-South
Project Description	10951 (Total)

Site Information

Intersection	Wilson and Clovercroft
Jurisdiction	Franklin, TN
East/West Street	Clovercroft Road
North/South Street	Wilson Pike
Peak Hour Factor	0.81
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		1	0	1		0	0	0	0	1	1	0	0	0	1	1
Configuration		L		R						L	T				T	R
Volume, V (veh/h)		238		241						112	72				77	137
Percent Heavy Vehicles (%)		0		0						0						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.40		6.20						4.10						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.50		3.30						2.20						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		294		298						138						
Capacity, c (veh/h)		504		967						1312						
v/c Ratio		0.58		0.31						0.11						
95% Queue Length, Q_{95} (veh)		3.7		1.3						0.4						
Control Delay (s/veh)		21.7		10.4						8.1						
Level of Service, LOS		C		B						A						
Approach Delay (s/veh)		16.0								4.9						
Approach LOS		C														

HCS7 Two-Way Stop-Control Report

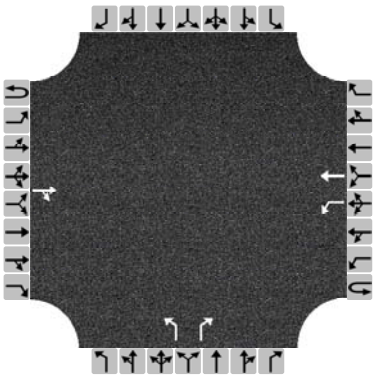
General Information

Analyst	FTG
Agency/Co.	FTG
Date Performed	Aug 2018
Analysis Year	2022
Time Analyzed	AM Peak Hour
Intersection Orientation	East-West
Project Description	10951 (Total)

Site Information

Intersection	Clovercroft and Amelia
Jurisdiction	Franklin, TN
East/West Street	Clovercroft Road
North/South Street	Amelia Park
Peak Hour Factor	0.86
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	1	1	0		1	0	1		0	0	0
Configuration				TR		L	T			L		R				
Volume, V (veh/h)			271	12		9	535			38		24				
Percent Heavy Vehicles (%)						0				0		0				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized		No				No				No				No		
Median Type/Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.10				6.40		6.20				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.20				3.50		3.30				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						10				44		28				
Capacity, c (veh/h)						1242				283		724				
v/c Ratio						0.01				0.16		0.04				
95% Queue Length, Q_{95} (veh)						0.0				0.5		0.1				
Control Delay (s/veh)						7.9				20.1		10.2				
Level of Service, LOS						A				C		B				
Approach Delay (s/veh)						0.1				16.2						
Approach LOS										C						

HCS7 Two-Way Stop-Control Report

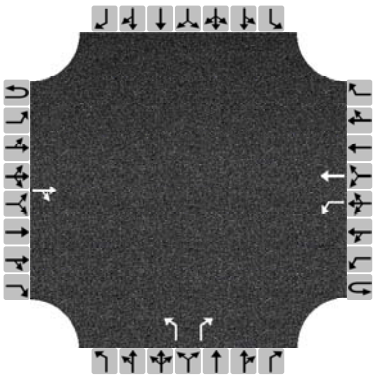
General Information

Analyst	FTG
Agency/Co.	FTG
Date Performed	Aug 2018
Analysis Year	2022
Time Analyzed	PM Peak Hour
Intersection Orientation	East-West
Project Description	10951 (Total)

Site Information

Intersection	Clovercroft and Amelia
Jurisdiction	Franklin, TN
East/West Street	Clovercroft Road
North/South Street	Amelia Park
Peak Hour Factor	0.93
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	1	1	0		1	0	1		0	0	0
Configuration				TR		L	T			L		R				
Volume, V (veh/h)			463	43		27	227			25		17				
Percent Heavy Vehicles (%)						0				0		0				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized		No				No				No				No		
Median Type/Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.10				6.40		6.20				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.20				3.50		3.30				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						29				27		18				
Capacity, c (veh/h)						1035				336		559				
v/c Ratio						0.03				0.08		0.03				
95% Queue Length, Q_{95} (veh)						0.1				0.3		0.1				
Control Delay (s/veh)						8.6				16.6		11.7				
Level of Service, LOS						A				C		B				
Approach Delay (s/veh)						0.9				14.6						
Approach LOS										B						

HCS7 Two-Way Stop-Control Report

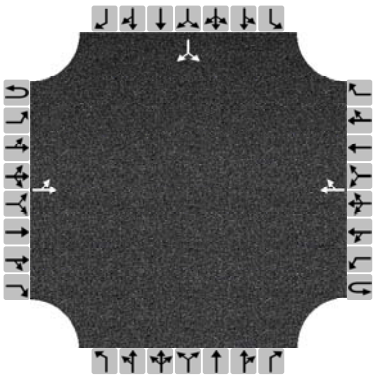
General Information

Analyst	FTG
Agency/Co.	FTG
Date Performed	Aug 2018
Analysis Year	2022
Time Analyzed	AM Peak Hour
Intersection Orientation	East-West
Project Description	10951 (Total)

Site Information

Intersection	Clovercroft and Parish
Jurisdiction	Franklin, TN
East/West Street	Clovercroft Road
North/South Street	Parish Presbyterian
Peak Hour Factor	0.86
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume, V (veh/h)		51	244				511	34						22		33
Percent Heavy Vehicles (%)		0												0		0
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.10												6.40		6.20
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.20												3.50		3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		59													64	
Capacity, c (veh/h)		959													355	
v/c Ratio		0.06													0.18	
95% Queue Length, Q_{95} (veh)		0.2													0.6	
Control Delay (s/veh)		9.0													17.3	
Level of Service, LOS		A													C	
Approach Delay (s/veh)		2.1												17.3		
Approach LOS														C		

HCS7 Two-Way Stop-Control Report

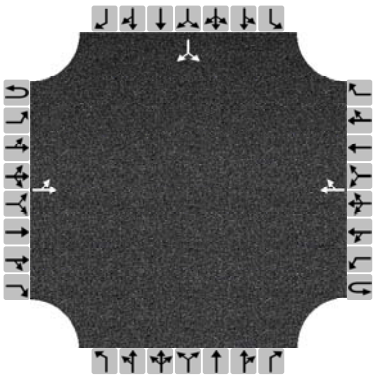
General Information

Analyst	FTG
Agency/Co.	FTG
Date Performed	Aug 2018
Analysis Year	2022
Time Analyzed	PM Peak Hour
Intersection Orientation	East-West
Project Description	10951 (Total)

Site Information

Intersection	Clovercroft and Parish
Jurisdiction	Franklin, TN
East/West Street	Clovercroft Road
North/South Street	Parish Presbyterian
Peak Hour Factor	0.93
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume, V (veh/h)		8	472				244	5						7		10
Percent Heavy Vehicles (%)		0												0		0
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.10												6.40		6.20
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.20												3.50		3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		9													18	
Capacity, c (veh/h)		1308													526	
v/c Ratio		0.01													0.03	
95% Queue Length, Q_{95} (veh)		0.0													0.1	
Control Delay (s/veh)		7.8													12.1	
Level of Service, LOS		A													B	
Approach Delay (s/veh)		0.2												12.1		
Approach LOS														B		

APPENDIX C
TRIP GENERATION CALCULATIONS

TRIP GENERATION CALCULATIONS – Private School

The following calculations are based on the data compiled for ITE Land Use Code 536.

Average Daily Traffic

T = 2.48 (X)
T = 2.48 (**175**)
T = 434 vehicles

Enter = 0.50 (434) = 217 vehicles
Exit = 0.50 (434) = 217 vehicles

AM traffic during peak hour of adjacent street

T = 0.80 (X)
T = 0.80 (**175**)
T = 140 vehicles

Enter = 0.61 (140) = 85 vehicles
Exit = 0.39 (140) = 55 vehicles

PM traffic during peak hour of adjacent street

T = 0.17 (X)
T = 0.17 (**175**)
T = 30 vehicles

Enter = 0.43 (30) = 13 vehicles
Exit = 0.57 (30) = 17 vehicles